

AN INFANTRY JOURNAL - PENGUIN SPECIAL

# MODERN BATTLE

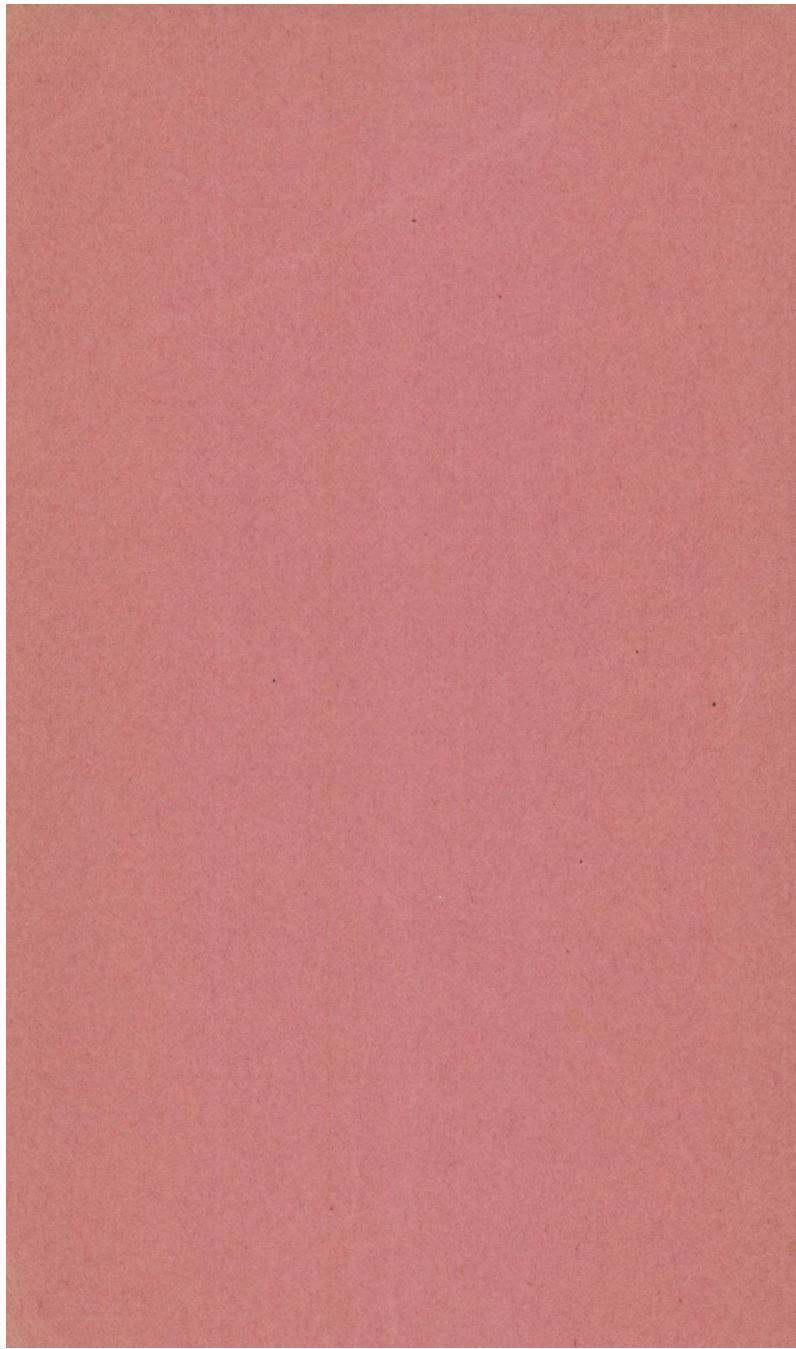
L.T. COL. PAUL W. THOMPSON

An accurate, play-by-play description of battles of World War II. Taken together, these fast-moving, true accounts provide a solid basis for understanding the strengths and weaknesses of the German war machine. Much of the information in the book was taken from German military sources not generally available.

NEW YORK



WASHINGTON



KNOW YOUR FOES

# MODERN BATTLE

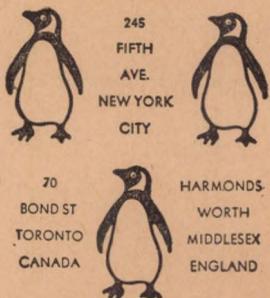
by Lieutenant Colonel Paul W. Thompson

CORPS OF ENGINEERS



PENGUIN BOOKS, INC.  
THE INFANTRY JOURNAL, INC.  
NEW YORK      WASHINGTON

*Publisher's Note*—THIS BOOK IS PUBLISHED JOINTLY BY PENGUIN BOOKS,  
INC., 245 FIFTH AVE., NEW YORK, AND THE INFANTRY JOURNAL, INC.,  
WASHINGTON, D. C.

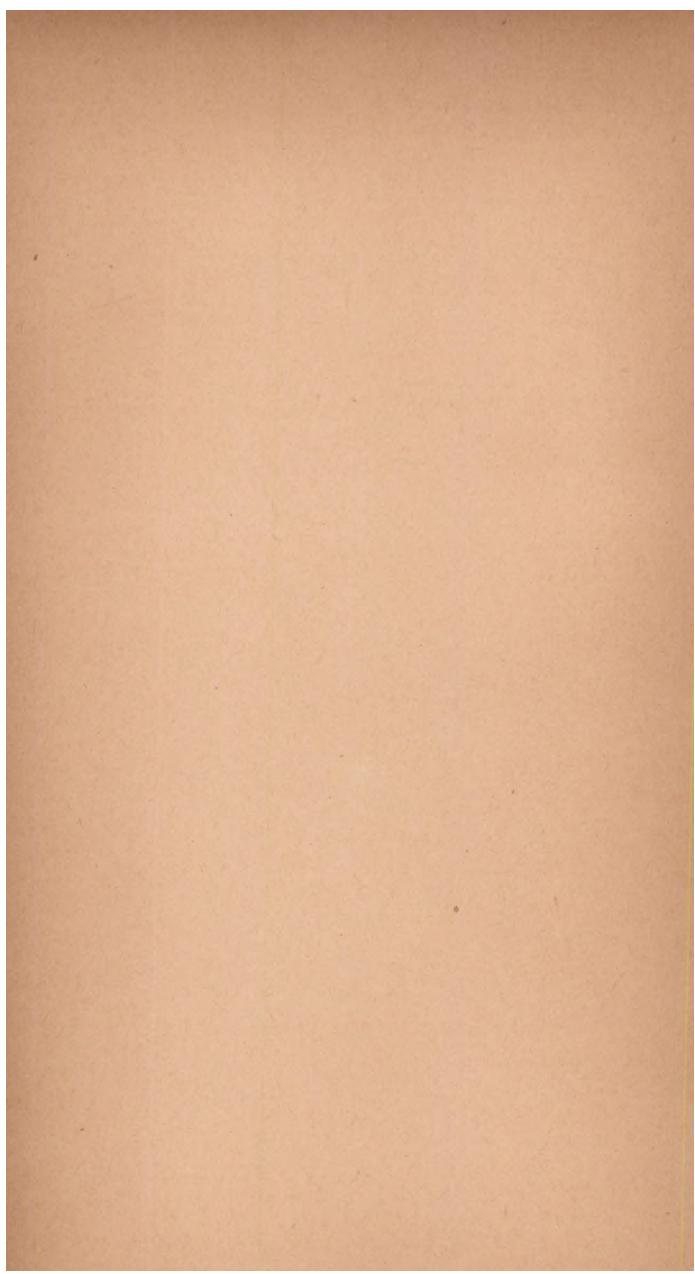


*First published in Penguin Books October, 1942*

COPYRIGHT, 1942, INFANTRY JOURNAL, INC.

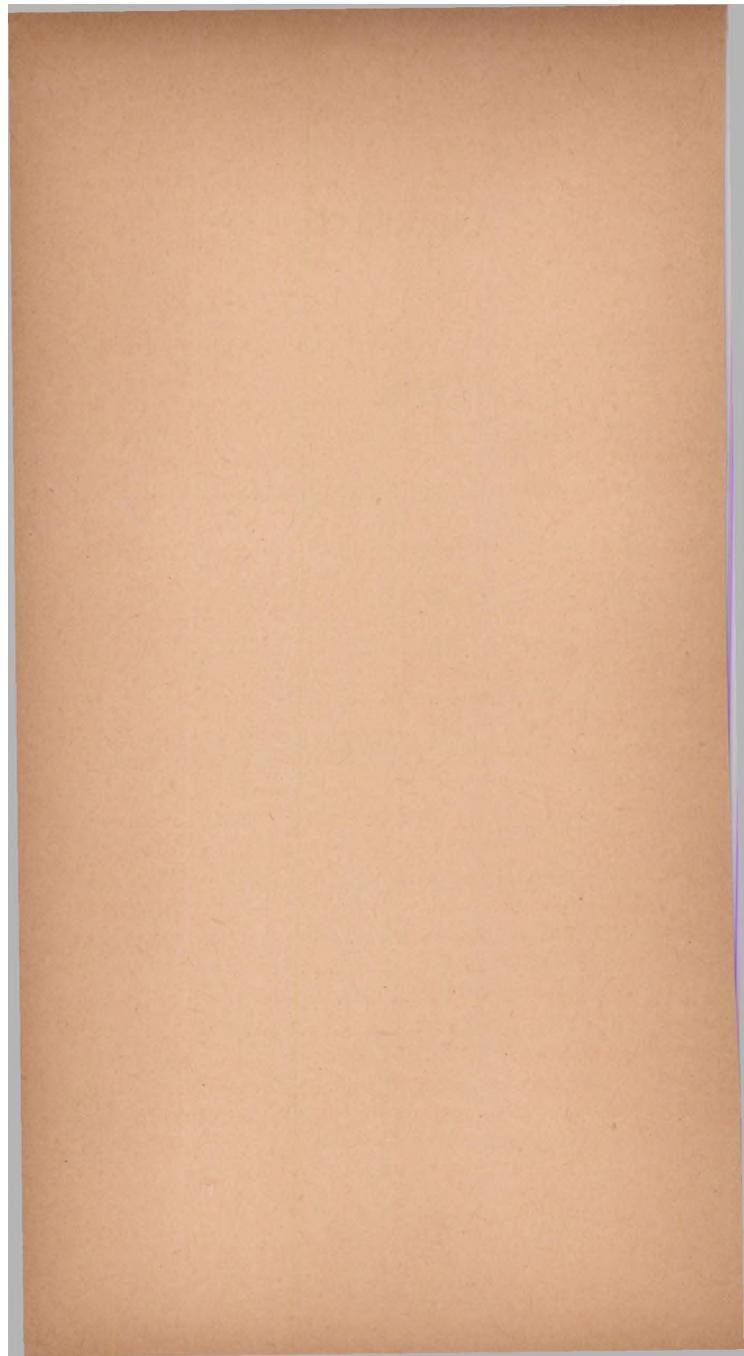
PRINTED IN THE U.S.A. BY H. WOLFF, NEW YORK

**MODERN BATTLE**



## CONTENTS

Foreword	7
1 What Happened at Sedan	11
2 Tank vs. Tank	29
3 A Panzer Division Crosses the Meuse	53
4 Breakthrough on the Somme	61
5 Tanks: Arras to Dunkirk	79
6 The Capture of Eben-Emael	102
7 War for the Passes	122
8 Parachutes (and Propaganda) on the Corinth Canal	166
9 Trouble at Ilza	173
10 Artillery Battalion in Distress	181
11 Tank Action South of Kutno	188
12 The Affair at Przerwa Creek	195
13 The Almost-Lost Regiment	203
14 A Great Day for the A.T.	216
15 Conquest by Air	224



## FOREWORD

TO FOLLOW military operations step by step in order to see just what the opposing commanders aimed at, and where their forces went and how they fought to get there, and what mistakes or brilliant strokes of war the commanders made, is by no means solely a pursuit for the serious military student. It is a fascinating study (or game; it can be either or both) open to every military man of any degree of experience, and also to any citizen who believes that something of the "how" of making war lies, as it does, within the field of what he should know today.

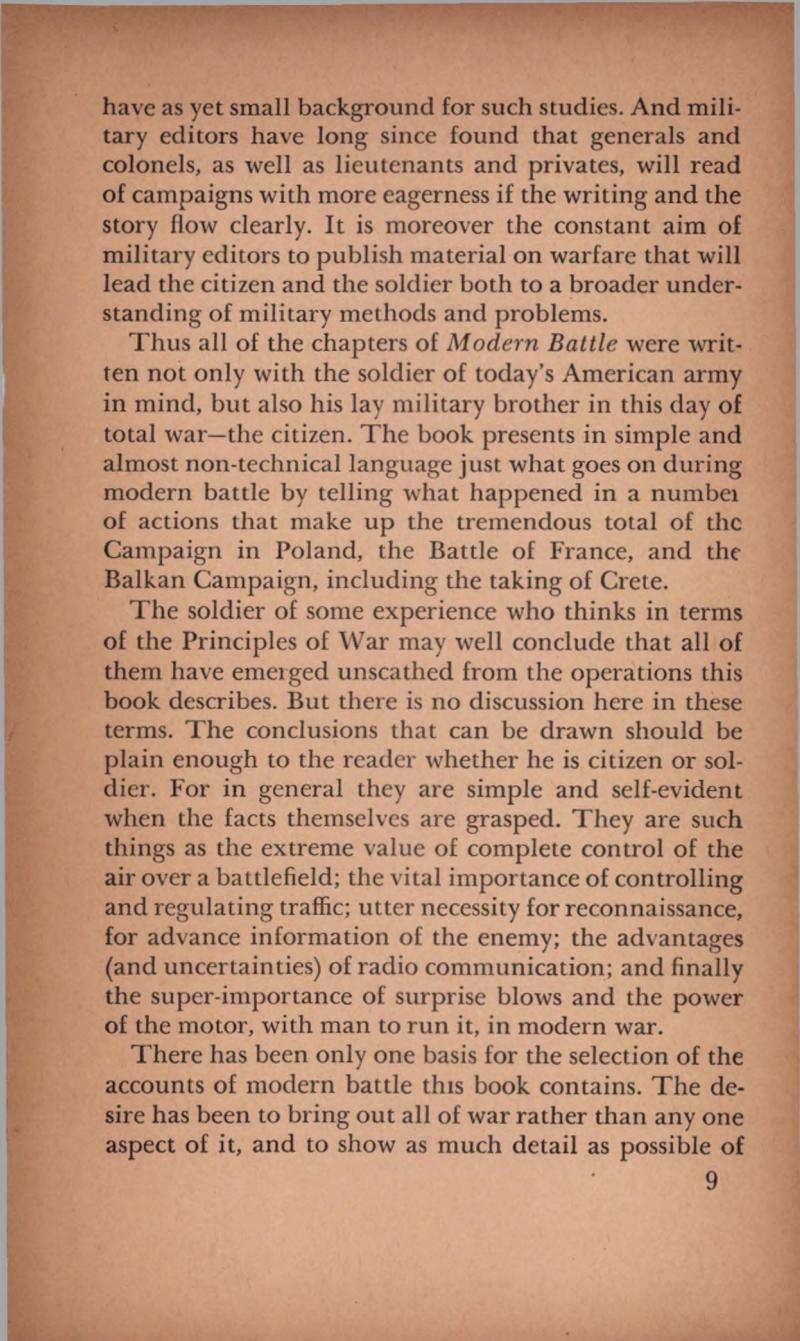
For over twenty years between the two great wars, American books that told how battles and wars were won found few to read them who were not in one component or another of the Army. It is true that the details of the continual wars of the Twenties and Thirties were described in the press and followed closely by some. But on the whole there was no general interest beyond the main facts—that Madrid was resisting, that Hankow had fallen, or that Addis Ababa had been reached. Writers of serious histories in this period thought nothing of sliding over "the war years" of any war with greatly condensed accounts, or even with mere statements that they would skip the fighting entirely. There were some biographers who did not deem of minor importance the campaigns and battles that affected the lives of their subjects. And sometimes a novelist and at least one poet found in the details of war a major theme.

But few in all were such writers. And likewise few were the American readers who cared to know what the armies and the soldiers had done whom earlier American readers had sent out to war.

It did not take long, however, once the steel arrows of the Nazi forces began to push their points in closing curves across the maps of France, for American readers again to follow the progress of armies in battle. And since that May of a year ago the home strategist—maps of Europe have sold by millions—with the help of his newspaper and his news magazine has found new interest in watching what the generals have done.

But even with the multiplied means and speed of bringing the news from Helsinki, Dunkirk, Tobruk, Athens, Crete, or Moscow to the homes of America, it has been a difficult matter to follow the war. The manner of the fighting and maneuvering is badly confused by the exaggeration and secrecy of propaganda and censorship. The citizen and soldier alike, here in America, gain a distorted picture at first, but especially the citizen whose knowledge of military operations in general may not be great. Accounts of some clarity eventually come through. But by then fresh news of the war usually crowds such stories into the back pages of the newspapers as "sidelight" material. To the soldier, however, and especially the soldiers of a developing army, such accounts are important news and in no way sidelight matters. It may take months until a reasonably full description of a campaign can be put together, but when it comes, it is naturally of utmost interest to the military reader.

The American soldier on active duty, working long hours as he must in helping to build his own Army, prefers to gain the essence of modern battle through brief and readable articles in the military journals. He has no time for long and technical treatises, and he may



have as yet small background for such studies. And military editors have long since found that generals and colonels, as well as lieutenants and privates, will read of campaigns with more eagerness if the writing and the story flow clearly. It is moreover the constant aim of military editors to publish material on warfare that will lead the citizen and the soldier both to a broader understanding of military methods and problems.

Thus all of the chapters of *Modern Battle* were written not only with the soldier of today's American army in mind, but also his lay military brother in this day of total war—the citizen. The book presents in simple and almost non-technical language just what goes on during modern battle by telling what happened in a number of actions that make up the tremendous total of the Campaign in Poland, the Battle of France, and the Balkan Campaign, including the taking of Crete.

The soldier of some experience who thinks in terms of the Principles of War may well conclude that all of them have emerged unscathed from the operations this book describes. But there is no discussion here in these terms. The conclusions that can be drawn should be plain enough to the reader whether he is citizen or soldier. For in general they are simple and self-evident when the facts themselves are grasped. They are such things as the extreme value of complete control of the air over a battlefield; the vital importance of controlling and regulating traffic; utter necessity for reconnaissance, for advance information of the enemy; the advantages (and uncertainties) of radio communication; and finally the super-importance of surprise blows and the power of the motor, with man to run it, in modern war.

There has been only one basis for the selection of the accounts of modern battle this book contains. The desire has been to bring out all of war rather than any one aspect of it, and to show as much detail as possible of

effective co-operation between the different combat elements—tanks, foot troops, air units, artillery. The successful fighting teams have been emphasized in the selection of material rather than any particular partner in these teams.

*Modern Battle* is based on a variety of source materials mainly from the professional military journals. Some of the accounts come from interviews with actual participants in the engagements described. Much of the background material is German, since the Nazi methods of warfare are those that have been most successful, and those that we need to know best as we work to find methods still better. Some of the chapters are digests, plus comments and conclusions by the author, of articles that have appeared in the following foreign periodicals: *The Times*, *The Illustrated London News*, *Militär-wissenschaftliche Rundschau*, *Militär-Wochenblatt*, *Deutsche Wehr*, *Die Wehrmacht*, *Die Panzertruppe*, *Vierteljahreshefte für Pioniere*, *Militär-wissenschaftliche Mitteilungen*, *Der Adler*, *Berliner Illustrirte Zeitung*, *Frankfurter Zeitung*, *Schweizerische Monatschrift für Offiziere aller Waffen*, *Völkischer Beobachter*, *Revue Militaire Suisse*.

The maps were prepared by Captain William H. Brown, U. S. Army.

THE EDITORS,  
*The Infantry Journal*  
Washington

## CHAPTER I

### WHAT HAPPENED AT SEDAN

THE BREAKTHROUGH along the Meuse in May of 1940, leading as it did to "the greatest campaign of annihilation in history," has already claimed page after page in the military press of the world. Of course, no complete account of the campaign has yet been forthcoming; but article by article, additional facts are becoming known. Recently, in the European press, two articles of especial importance have appeared. One, written by the German Lieutenant Colonel Soldan, presents a fair generalized view of the German plan and operations. The other, written by the Swiss Colonel Daniker, reveals hitherto unknown facts concerning the French plan and operations. These two articles, supplemented by a few others, form the basis for this present account.

#### I

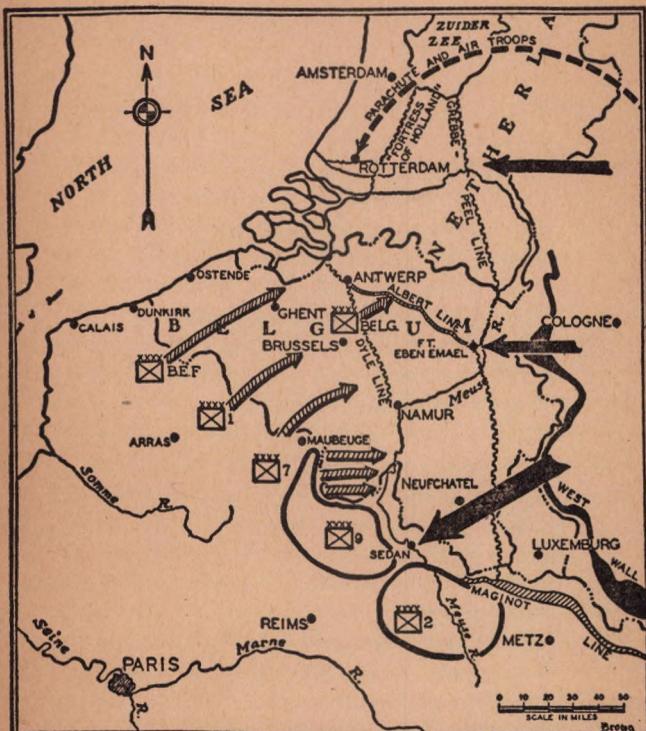
The elements of the general situation at the opening of the campaign in the west are shown schematically on map 1. Between the northern extremity of the Maginot Line and the sea stood large French and Allied forces, ready to meet anything in the way of a new Schlieffen envelopment (or, the Germans say, ready to push into Holland, and thence south into the Ruhr area). The Germans, who "enjoyed no numerical superiority over their combined enemies," (that is, if one counts as "enemies" before May 10th the Belgian and Dutch

forces) attacked over the three borders at dawn on May 10th. As indicated on the map, this was the signal for the French and British to advance eastward into Belgium in accordance with the provisions of "*Manoeuvre Dyle*." It also was the signal for the French Ninth Army to move up and occupy the positions of the "defensive area" behind the Meuse, west of the Ardennes. As the German attack progressed, its complexities resolved themselves (according to the Daniker analysis) into three points of main effort: (1) The overrunning of Holland, which denied the British bases from which they might have operated effectively against the Ruhr area; (2) The reduction of Fort Eben-Emael, keystone of the Albert Line and vital to the defense of Belgium and Holland; and (3) The breakthrough along the Meuse which resulted in the separation of the Allied armies north and south of the Somme, and made possible the Cannæ in Flanders. So much for the big picture. This account now concerns itself exclusively with item (3), the breakthrough.

The area pertinent to the breakthrough is shown to relatively large scale on map 2. An estimate of the terrain over this area resolves itself chiefly into a consideration of the Meuse River and the Ardennes Forest. The river is about seventy yards wide, with a current of perhaps six feet a second, and flows through a valley hardly 500 yards wide, which is partly wooded and partly cultivated. The Ardennes Forest, the general outlines of which are indicated on the map, consists of a heavily-wooded country so rough and hilly as to be classed as "mountainous" by western European standards. The Ardennes is deeply cut by streams (one of which, the Semoy, is not everywhere fordable), and is served by a road net which, while fairly dense, involves steep grades, weak bridges, and many defiles.

In one sense, the issue of the entire campaign hinged

on the conclusions following respectively from the French and German estimates of the terrain of the Ardennes. The French, looking as always to World War



Map 1: The elements of the German plan and the French "Manoeuvre Dyle"

experiences, considered the area to be "as completely unsuited for large-scale operations as any area possibly could be." The Germans considered that the area offered great difficulties, especially to motorized move-

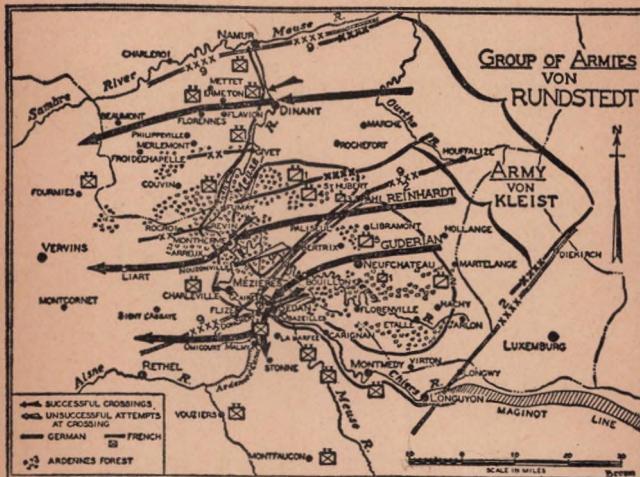
ments. But they believed that with proper equipment, training, and planning the difficulties could be overcome. There was one further difference between the French and German views on the matter: the French made no secret of their conclusions, but the Germans gave no hint of theirs.

The Germans, believing as they did, and knowing that the French believed otherwise, decided to capitalize on the situation. "They [the Germans] felt certain that they could overcome the difficulties that would arise [in the passage through the Ardennes], and that the French High Command, relying upon the difficulties of the terrain, was certain to be taken by surprise." Thus, a breakthrough over the Ardennes crystallized in the mind of the German High Command.

An estimate of the forces opposing each other in the breakthrough operation is as illuminating as the comparison of the estimates of the terrain. There has been no revelation as to the detailed composition of the German force ("We are still at war," says Colonel Soldan); but evidence as to its general characteristics is at hand. In this connection, reference should be made to map 2. The breakthrough force formed the spearhead for the group of armies commanded by General von Rundstedt. The breakthrough force itself appears to have been a single army, commanded by General von Kleist. In the von Kleist army there were two corps, commanded respectively by Generals Guderian and Reinhardt. These two names—and especially the name of Guderian—were already famous in connection with the operations of panzer divisions in Poland. ("General Guderian," says Colonel Soldan, "has the temperament of a Zieten.") The name of the commander of the northernmost column shown on map 2 is not known, although General Rommel has been mentioned in connection with an action in the vicinity of Dinant.

The breakthrough force was "completely motorized" and involved "a total of 45,000 vehicles." These facts, taken along with the knowledge that the Germans used perhaps ten panzer divisions in Poland, lead to the conclusion that the breakthrough force probably included at least eight panzer divisions, and possibly a few motorized divisions.

The dispositions of the French (according to Dani-



Map 2: The breakthrough

ker, who depends on French sources) show far more eloquently than words the degree of their misplaced confidence in the barrier qualities of the Ardennes. These dispositions have been plotted schematically on map 2. The Second Army of General Huntziger occupied strong positions along the Meuse and Chiers Rivers from the vicinity of Flize to the northern extremity of the Maginot Line near Longuyon. Over this thirty-mile

front General Huntziger had four divisions in line and two in reserve. From the vicinity of Flize north to the Sambre River the line was held by the Ninth Army of General Corap.

More precisely, the line north of Flize was to *be* held by the Ninth Army of General Corap. The troops actually were in the positions along the Meuse only in the sector Flize-Revin, this fifteen-mile front being occupied by the "Mézières Fortress Division." Farther to the north the units of the Ninth Army were back on French soil, ready to advance to the Meuse when occasion demanded. When the occasion should demand, the respective divisions of the army were to be disposed about as indicated on the map. The fifteen-mile-front Revin-Givet was assigned to one division. The twenty-mile front Givet-Namur, which covered an area considered to be more suited to motorized movements, was assigned to three divisions—the crack divisions of the army. Two divisions were in reserve, one behind the Ardennes and one farther to the north.

The situation east of the Meuse was relatively no better than that just described. The Ardennes were normally garrisoned by the Belgian *Chasseurs d'Ardennes*. These were supposed to be élite troops, but they were not well equipped—and there was only one division of them. The French Second and Ninth Armies were prepared to aid in the defense of the Ardennes—with five or six cavalry divisions. Each cavalry division was largely made up of horse units—four horsed regiments plus a few mechanized elements.

Referring again to the opening situation of the Ninth Army, it was more than a matter of that army being miles back of its Meuse positions when the German advance began, for the positions themselves were not strong and were not completely organized. German accounts mention "two lines of emplacements" along the

river. But the French themselves regarded the sector north of Sedan not as a *region fortifiée* (fortified region) but as a *secteur défensif* (barrier zone). Perhaps the best commentary on the matter is the fact that the Ninth Army "counted on at least five days, and preferably six or seven, for the movement and organization of the position." If a nation's army ever staked everything on an estimate, the French army did so on its estimate of the time required for an enemy to traverse the Ardennes.

II

At 5:35 A.M. on May 10th, advance engineer elements of the panzer divisions of von Rundstedt's armies crossed over into Luxembourg and began removing and bridging over the road blocks (using no explosives for fear of damaging the roads). The main columns followed close behind. There was no resistance whatever, but "minor breakdowns and unavoidable friction" and "winding roads and weak bridges" reduced the rate of advance to below the time-table figures.

Within one hour and ten minutes of the time the Germans crossed the borders, orders to proceed with "*Manoeuvre Dyle*" came down the chain of command. With this, the French and Allied forces in northern France began their eastward move. As has been indicated, the Second Army and the Mézières Fortress Division of the Ninth Army were already in position along the Meuse and the Chiers Rivers. The mass of the Ninth Army began to wheel about Mézières toward the Meuse. Simultaneously, the cavalry units of both armies were ordered into areas east of the river.

Thus, on the morning of May 10th, the immediate situation was about as follows: The German armored units were rolling slowly westward, while the French cavalry units were trotting and galloping eastward. To

a large extent the issue depended on the outcome of the meeting-delaying actions in immediate prospect.

The first of these actions occurred late in the afternoon when elements of the 2d Cavalry Division encountered German armored units in the long clearing west of Arlon. The result was a bitter fight lasting until dark. The French suffered heavy losses and were forced to withdraw. As the battered 2d Cavalry Division fell back to the line Etalle—Neufchâteau, the 5th Cavalry Division was reported near Libramont. That was sometime after dark, May 10th.

Meanwhile the Germans were calling it a day. Their forward elements rested along a line just west of the Luxemburg—Belgian border. They were dissatisfied with the day's results, since the time-table had set the first day's objective as the line Libramont—Neufchâteau—Virton. Furthermore they were alarmed at reports received from air observers. These told of "strong enemy tank units" moving northeastward from Carignan, Montmedy, and Longwy. It seemed that the strategic surprise so essential to the German plan had been lost—as well it might have proved if those reports had been correct. As a matter of fact, during the next morning the reports were found to be false. Between the panzer divisions and the Meuse there were only the Belgian chasseurs and the French cavalry.

While the cavalry of the Second Army had established contact with the enemy on May 10th, as already described, the cavalry of the Ninth Army, far from gaining contact with the enemy, had not even crossed the Meuse in force on that day. This failure of the cavalry of the Ninth Army to advance promptly had left the left (north) flank of the 5th Cavalry Division wide open. During the night of May 10th-11th, General Corap was ordered to get his cavalry forward, and quickly. As a result of the prodding, the morning of the 11th found

the 3d Spahi Brigade (Arab cavalry) of the Ninth Army in direct contact with the 5th Cavalry Division of the Second Army. The other cavalry divisions of the Ninth Army (the 1st and the 4th) had reached the area north and northwest of St. Hubert.

About 11:30 A.M. on May 11th, the 3d Spahi Brigade and the 5th Cavalry Division were struck by armored units at several points between Neufchâteau and Libramont. Again the fighting was bitter, especially in the clearing between Betrix and Paliseul (where the fighting in 1914 also had been bitter). Again the French cavalry was forced back, withdrawing to behind the Semoy River. The time was about 5:30 P.M. The bridges over the winding, steep-banked Semoy were blown, and shortly afterward elements of General Guderian's corps occupied Bouillon. Those elements had driven through the allegedly fortified defiles near Neufchâteau with ridiculous ease, and without having to resort to the carefully rehearsed flanking operations which the timetable had assumed would be necessary. Meanwhile, with the Germans in Bouillon, the 1st and 4th Cavalry Divisions had no business out near St. Hubert. Accordingly, about 10:00 P.M., General Corap ordered those units to withdraw behind the Meuse. Neither division had yet been engaged. (There are no details regarding the activities of the Belgian chasseurs on this day of May 11th. Colonel Soldan intimates that the Belgians, utterly surprised at the rapidity and power of the German advance, were overrun without developing much resistance.)

The course of events on the 12th consisted once again of futile efforts on the part of the French cavalry to stem the advance of the panzer units. Out in front of the Ninth Army, the 1st and 4th Cavalry Divisions began their withdrawal toward the Meuse at 2:00 A.M., and carried it out by occupying successive positions. One

such position, a few miles east of the Meuse and "far to the north," was attacked suddenly during the morning. Later, it developed that the surprise attack had been made by the "Ghost Division" of General Rommel, whose unit had acquired its nickname through just such operations as this one. However, the withdrawal could now be partly covered by French artillery west of the Meuse. By 2:00 P.M. (still May 12th), all cavalry of the Ninth Army was back behind the Meuse, and the order to blow the bridges had been given.

Farther to the south, near Bouillon, the story was much the same. There, the German tanks forded the Semoy at many places, and the French cavalry continued its precipitous withdrawal. During this day, German dive bombers made their first appearances. The effects were great, both from the material and the moral points of view. The French artillery had now joined in the battle and occasionally a French bomber was seen. These individual French aviators had no effect on the general issue, but at one time they made things so hot around General Guderian's headquarters as to compel him to move to a new location.

By nightfall of the 12th, leading German elements had reached the heights overlooking the Meuse valley, and here and there a sharpshooter was trying his luck at picking off targets on the far bank. The long armored and motorized columns stretched back over Belgium and Luxembourg all the way to Germany. At General Kleist's headquarters there no longer was any gloom. The time lost during the first day had been redeemed by the speed with which the Neufchâteau and Semoy areas had been forced. The counterattacks by French armored units which had been so much feared had not materialized. The strategical surprise that was so important had been achieved.

At German headquarters, the big question now

(night of May 12th-13th) revolved around the decision on the exact time for forcing the crossings of the Meuse. There was some question of delaying the attack until "the type of preparation which had always been considered essential for such an operation" could be made. It might have been especially desirable to have waited for the heavy artillery to be brought up. On the other hand, "it was realized that hesitation and delay would result in diminishing surprise," and since "successes achieved had strengthened confidence," the decision arrived at was to force the crossings the next day.

Across the river the French were in a bad way. This was especially true of the Ninth Army. Instead of the five days that army needed for organizing its positions, it had had barely three. Indeed, it is probable that, at some points along the Meuse, the Germans reached the east bank before elements of the Ninth Army had come up to the west bank.

### III

During the 13th, crossings were forced at several points over the forty-mile front from south of Sedan to north of Dinant. At several other points, attempts at crossings were made, but were unsuccessful. The locations of these various points, in so far as they have been identified, are indicated by arrows on map 2. It may be noted that the chief crossing points are near Sedan, where it was necessary to cross the Ardennes Canal very soon after crossing the river. This disadvantage of the crossings near Sedan was considered to be more than outweighed by the superior road net leading to the west from Sedan, and the northward curve of the river below Sedan, which favored the attackers as regards supporting fire.

Data concerning a few of these crossings of the Meuse are available. These data are summarized as follows:

CROSSING AT	DESCRIPTION	REMARKS
Floing (Glaire-et Villette)	505th Engineer Battalion (army troops?) bivouacked near Bouillon night of May 12th-13th; advanced to "woods north of Sedan" early on morning of May 13th; bridge train (45 yard, 16-ton equipage?) was with battalion; advanced through Floing to river bank on afternoon of May 13th; established 16-ton ferry at 5:30 P.M., May 13th; assisted by 57th Engineer Battalion (armored division) completed 16-ton ponton and trestle bridge (capacity at least 25 tons) at midnight, May 13th-14th; disassembled ponton and trestle bridge (after "bridge construction battalion" had built fixed bridge) on or about May 19th.	This was the first ponton and trestle bridge completed across the Meuse; it was used by the neighboring division which crossed on May 14th and flanked out defenders who had prevented a crossing at Donchery; General von Rundstedt watched construction of the bridge.
Monthermes	57th Engineer Battalion (armored division) cleared road-blocks in face of enemy small-arms fire at points a few miles east of Meuse on the afternoon of May 13th; reached river that afternoon, ferried across infantry and infantry weapons (including AT guns) in pneumatic boats after and under cover of dive-bomber and artillery bombardments; completed construction of 16-ton ponton and trestle bridge on May 14th; meanwhile, assisted infantry in reducing "two lines of emplacements" at the rate of one line per hour, using flame throwers; battalion advanced behind division, was rejoined by bridge train at Artues in Flanders on May 29th.	This crossing, unlike those farther north, placed the attacking troops west of the Ardennes Canal.
Houx (north of Dinant)	Advance guard of panzer division arrived few miles east of Houx on the afternoon of May 12th; attempt to seize bridge intact that afternoon failed by minutes; scattered assault troops crossed old dam during night of May 12th-13th; crossing of river forced early on the morning of May 13th, under cover of fire from tanks lined up along bank; no information on construction of bridge.	A more detailed account of the crossing at Houx appears in Chapter III, page 53.

Following the first crossings during the evening of May 13th and the night of May 13th-14th, there was great activity on both sides of the line. The Germans were throwing everything into their attempts to strengthen and deepen the bridgeheads, looking ahead to the counterattacks which they knew would be coming. By 8:00 P.M. on the 13th, armored units (apparently set across on 16-ton ferries) had gained the critical observation points near La Marfée and had disorganized the French 55th Division on the left flank of the Second Army.

The French, on their part, spent the night of May 13th-14th frantically assembling reinforcements and preparing defenses and counterattacks. The Ninth Army was being hard pressed north of Dinant; but it was apparent that the most dangerous breakthrough was the one near Sedan. Here, the German thrust had penetrated the line almost exactly at the junction of the Second and Ninth Armies, thereby jeopardizing both of them. During the night the two armies were able to scrape together reinforcements as follows:

*Second Army*: 5th Cavalry Division, which had been reorganized after its reverses in the Ardennes.

*Ninth Army*: 53d Division, which was still fresh; and 3d Spahi Brigade, which had been reorganized after its reverses in the Ardennes.

May 14th was a day of hard fighting, and of continued German successes. Based on details available, the following is a list of the major events of that critical day:

The 5th Cavalry Division and the 3d Spahi Brigade were annihilated.

The 53d Division was thrown back on Ormont.

The Guderian columns, advancing south between the Meuse River and the Ardennes Canal toward the high ground at Stonne, were attacked by strong French

forces, partly armored. After heavy fighting, the French attack was repulsed.

Elements of the Guderian columns, turning sharply to the west, captured two important bridges over the Ardennes Canal (at Omicourt and Malmy) before the French could demolish them.

One panzer division, unable to force the crossing at Donchery, sent units over the bridge at Glaire, two miles upstream, and took Donchery from the rear. (The Donchery bridge was finished by midnight, May 14th-15th.)

Units crossing over the captured bridges of the Ardennes Canal turned north and occupied Flize, thus exposing Mézières-Charleville to envelopment from the rear.

Additional reinforcements for the Ninth Army, consisting of the 1st Armored Division and the 4th North African Division, arrived respectively at Charleroi (by train) and Philippeville (on foot)—too late and too far away to be of help on this day (May 14th).

Extreme left flank of Second Army was further strengthened, fell back slowly on Stonne.

General Corap, commander of the Ninth Army, decided to abandon the line of the Meuse, and to withdraw during the night of May 14th-15th. Withdrawals were to be to two lines. The troops between Mézières and Fumay were to fall back to the line Signy-l'Abaye—Rocroi—Couvin, while those north of Givet were to withdraw to the line Merlemon—Florennes—Mettet.

On the morning of the 15th, there remained no doubt as to the magnitude and seriousness of the breakthrough. On the northern shoulder of the gap, the French 5th Division with parts of the 4th Cavalry Division in support, was holding fast, with its left on the Meuse south of Namur, and its right bent back toward Florennes. On the southern shoulder, the left of the

French Second Army was bent back on Stonne. Between Stonne and Florennes, the elements of the Ninth Army were in process of disintegration.

Thus, between Mézières and Fumay, the front-line units had not been able to withdraw as General Corap ordered; and on the 15th those units were being attacked on all sides. During the night, the "badly decimated" 18th Division, supported by the fresh 4th North African Division and the 22d Division, attempted to reorganize and assemble in some unidentified area "12 miles west of the Meuse." During the night (May 14th-15th) the 1st Armored Division had come up and had assumed a "battle formation" along the line Flavion-Ermeton. The battle formation consisted of two lines of tanks, heavy ones in front, light ones in rear. (The better expression would be to use "east" and "west" in place of "front" and "rear," since by now there was no telling the direction from which an attack might come.) And as a last straw, the armored division ran out of gas.

There is no record of the armored division having actually figured in a fight, despite the battle formation. The German units appear to have slipped by to the south of Flavion. Later in the day (still May 15th) they barely missed capturing General Corap near Froidechappelle. At about the same time, the general commanding the 18th Division had a similar narrow escape near Beaumont. These things show the depths at which the panzer units were already operating into the French areas.

During the 15th, the Reinhardt column, which had crossed at Monthermes on the 13th, but which had been held up by difficult terrain and strong resistance, broke through to Arreux. In the course of this advance, the French 61st Division was all but wiped out. The advance to Arreux also made untenable the French positions which until now had prevented a crossing at

Nouzonville. From Arreux, the Reinhardt column pushed forward rapidly, occupying Liart probably late on the 15th. At the same time, certain of the Guderian forces pushed the left of the Second Army back on Stonne, while the rest of the corps continued the advance to the west.

By nightfall of May 15th, the Ninth Army could no longer be considered capable of offering serious resistance. The army had been completely defeated. The sector it had occupied until two days before was now a gap fifty miles wide through which the German armies poured. By May 16th, the Germans held the line Vervins—Montcornet—Rethel. Four days later, the corridor had been driven to the sea, the encirclement of the armies in Flanders was complete, and the framework for the Battle of France—including bridgeheads over the Somme—had been established.

#### IV

Up to this point, the effort has been made to keep this account strictly reportorial. Actually, the Soldan and Daniker articles are full of comments and conclusions (not to mention a bit of propaganda now and then.) Those of especial interest are summarized below:

##### THE LESSONS

Both Colonel Soldan and Colonel Daniker agree that the great lesson to be derived from the breakthrough operation has to do with the capabilities of the motor-air combat team. In this respect, they pronounce the operation to be of history-making significance, marking as it does "the first instance in history in which motorized units supported by aircraft have attained a large-scale success against a major enemy." In the new combat team, "motor joins motor, and speedy ground movement is covered by a rapidly moving curtain of the

most intense kind of artillery fire." This is a principle "upon which many a military success hereafter will depend."

Colonel Soldan deplores the tendency to consider armored forces as "modern cavalry." The analogy has some substance if the reference is to the cavalry of Frederick; but none if the reference is to the cavalry of the World War. Unlike the cavalry of "earlier days," the armored force has the ability "to fight and win battles in complete detachment from all other *ground* troops." This ability derives from the facts that the armored force "includes all types of weapons within its own organization," that its "mobility and speed add greatly to the effect of these weapons"; and, that it makes full and unique use of the tank. Incidentally, the tank if used alone would come close to fitting the expression "modern cavalry"; but without support from the air, the tank would lose much of its shock power.

In one important respect, the armored force of today and the cavalry of old are alike—the type of leadership required. Just as Frederick had his Zieten and Seydlitz, von Rundstedt had his Guderian and Reinhardt.

Daring, speed, and surprise are the basic elements for a successful breakthrough. The breakthrough itself consists of a series of overlapping operations: the penetration, the widening and deepening of the gap, the constant forward movement, the continuous flow of new strength through the gap. The failure of any one of the contributing actions will compromise the chances of success for the operation as a whole. Thus there is need for the most careful study and planning before the operation is undertaken, and this "is especially true of motorized troops." In the breakthrough along the Meuse, "each movement was carefully calculated, and orders anticipating every situation that could possibly be foreseen were given in advance."

Thorough and appropriate training is as important as careful planning. "Every man, down to the last driver, must be trained to the point where he has a full mastery of technical details and the ability to combine calm and resourceful thinking with a high degree of initiative under fire." Colonel Soldan intimates that this criterion for training was satisfied by the German troops, but as evidenced by "the nature of their retreat and the condition in which they left the roads," it was not satisfied by the French.

Colonel Soldan emphasizes the sensitivity of motorized columns to mishaps which in themselves appear small. Thus, the stalling of one vehicle may be "disastrous for the whole column," something "our enemies in this war have more than once had occasion to confirm." Therefore the vehicles of motorized columns must be kept in good operating condition; and as for "iron" march discipline, it "is nothing less than a matter of life and death." Incidentally, an advancing armored force seizes all motor transportation abandoned by the enemy just as the infantry seizes abandoned equipment. The driver "makes it a practice to inspect every abandoned vehicle. For, no matter how badly the vehicle is damaged, there usually is some part—battery, spark plugs, tires—which may be used to advantage." As it worked out in France, "lost cars were easily replaced from the thousands of vehicles—sometimes whole columns lined up ready to go—which the enemy was compelled to leave behind."

The actual crossings of the Meuse were taken by the panzer columns almost in stride. The rôle traditionally filled by the heavy artillery was filled by the dive bomber. And the complete motorization of all units participating in the attack enabled new strength to be brought quickly forward. The crossings themselves were effected by tried and true methods: light (pneumatic)

assault boats for the first waves; ferries, built on assault boats or pontons, for vehicles, weapons, and tanks; and finally, ponton and trestle bridges made from standard equipage for loads of all types.

Colonel Soldan comments on the failure of the French to interpret correctly "the signs of the times." Leaning on the teachings of history, they concluded that a river like the Meuse could be forced, but only after the attacker had "completed extensive preparatory operations especially as regards the bringing up of heavy artillery." Colonel Soldan gives a hint of the German idea of how such a river should be defended against armored attack when he says that the French should have realized that "the use of an obstacle like the Meuse could easily be dangerous, and safety demanded that the defenders advance, fighting aggressively for the line of the river." Colonel Daniker observes that this was not the philosophy of General Gamelin, who believed that any army that "gave up its shell" would be defeated. Neither of the colonel-authors dwells long on the other elements of French weakness: the time required for them to occupy their positions, the lack of strength of the positions, the extended fronts of the divisions west of the Ardennes, the lack of mechanized means for counterattack, the lack of air support.

It now appears that deeper study of the French weaknesses may somewhat narrow down the exceedingly broad conclusions some of us have arrived at too abruptly regarding the super-efficiency of the motor-air combat team.

## CHAPTER II TANK vs. TANK

WHEN the alert-order came down through the channels of the 1st Panzer Division late on the afternoon of May

9, 1940, we are asked to believe that the general reaction among the troops was that "here is another of those night exercises coming up." That is the normal manner in which German chroniclers begin accounts of specific operations. In any event, the order came out at 5:00 P.M., and it said that the division must be ready to move at 11:00 that night. During those six hours, the conviction somehow spread that this was no exercise; that it was the real thing. So through that countryside east of Aachen, where the division had been waiting and probably hoping for war, much of the evening of the 9th was spent in the saying of farewells. This was as it should have been. For ahead of the 1st Panzer Division lay the real thing indeed—the Battle of Flanders—500-odd miles of movement—the Battle of France—and, insuring the division its place in history, the world's first great battle of tank-versus-tank.

Before we get deeply involved in details of our story, a few comments on how such a panzer division is made up are in order. As constituted in the spring of 1940, a panzer division included these elements: a reconnaissance battalion, two regiments of tanks, a rifle brigade, and a supply echelon. In the reconnaissance battalion were armored cars, motorcycles, and the heavy weapons of infantry—the machine guns and mortars. The rifle brigade was actually a small-scale division. Within it were an infantry regiment, an antitank battalion, an artillery regiment, an engineer battalion, and a signal company. Each tank regiment had two tank battalions, and each battalion four companies. Three of these four had the light 10-ton tank (PzKw II); the fourth had the medium 22-ton tank (PzKw IV). Each tank battalion was thus a "mixed" unit with tanks of two types; but any given tank company had only one type of tank. All other units in the division moved in motors. And it may

be that some of these particular troop-carrying motors were armored.

At 11:00 P.M. on May 9th, the division moved out—without fanfare, without lights, and with no other sound than that of the motors and the treads of the tanks on the road. The direction of march was—*west*; the first march objective was—*Aachen*.

Within an hour the columns had halted, the heads of some near Aachen. The halt was an extended one, lasting for several hours. In the interim the eagerly-awaited division field order came in. Any who had harbored last-ditch illusions that this was just another exercise now could relax. The division order made things perfectly clear:

This division advances over the Dutch border and, moving as rapidly as possible, seizes the bridges over the Meuse near Maastricht. Parachute troops are now being landed, with the mission of seizing the bridges over the Albert Canal. This division has also the mission of relieving the parachute troops from their difficult positions.

The movement west out of Aachen was made in three columns. The hour of departure was chosen so that the column heads would cross the frontier precisely at dawn. Dawn was at 5:00 A.M. During the miles of speeding approach to the Dutch border, still faster agencies of war moved over the division, the mass flight of the air squadrons, all flying low and *west*. Rolling along on the ground in the breaking light, the troops amused themselves by trying to identify the endless squadrons that passed overhead. Waves of bombers, waves of Stukas, and still more Stukas, all flying low and west. There on that May morning, with the tanks rolling along the ground and the bombers flying above them, was a preview of the War of the Future.

In the 1st Panzer Division, the 2d Tank Battalion

was traveling at the head of one of the three columns. The battalion crossed the Dutch border at Mamelis and a few seconds later was greeted with a burst of fire from a Dutch pillbox. A burst of *machine-gun* fire! The War of the Future thus early was meeting the War of the Past with tanks encountering small-arms fire. It took only a few rounds from the cannon of the leading tank to bring out the garrison of the pillbox, hands in air.

The exact formations in which the 1st Panzer Division advanced on that morning of May 10th we do not know. The fact that the Dutch pillbox was disposed of by the leading tanks of the 2d Battalion indicates that the tanks were either at the heads of the columns or were very close to their heads. The second is the more likely.

Usually as a panzer column advanced along roads it was covered by elements of its reconnaissance battalion. The motorcyclists of this battalion cruised ahead and tried to draw fire from any defenders near the route of advance. As soon as fire opened some of the motorcyclists would take cover and return the fire while others sped their machines to the rear. Very quickly, then, scout cars of the reconnaissance battalion itself would appear and would further develop the situation. If the resistance still continued, light tanks would come up, and finally the mediums. The next step in the sequence was to bring up the motorized infantry and artillery and call for Stuka support. If the situation developed as far as that, the normal procedure was now for the held-up tanks to withdraw as soon as the infantry had joined the fire fight. The tanks would then seek to bypass the strong defenses and gain the flanks and rear of the enemy, and get at his position by some less difficult direction of approach.

But the opposition offered by the Dutch as the 1st Panzer Division moved toward Maastricht was hardly

such as to call for anything more than the first and sometimes the second step of this whole process.

This incident of the tank and the pillbox was, indeed, typical of all the resistance met by the panzer division as it approached its first objective. The Dutch road-blocks were all of them weak; most of them could be by-passed; at best they were defended by small-arms fire. Only once, it seems, was a Dutch antitank gun encountered, and that time the gun was readily outflanked.

Even so, the 2d Battalion managed to lose two tanks during the course of the morning. This happened when a section leader decided he could make better time with his small group of tanks by leaving the main column and crossing a small waterway over a secondary bridge, a few hundred yards downstream from the bridge over which the main column would pass. But the approaches to this bridge were mined. Two of the tanks, traveling ahead of the others and close together, drove squarely into the minefield and were lost. The engineers, back in the column just behind the tanks, then came up in their trucks and took out of the ground fifty-two large Dutch mines.

Despite no strong resistance, the advance of the 1st Panzer Division through the Maastricht Corridor was not a perfectly-ordered frictionless movement of troops. Division staff officers found themselves somehow in the middle of marching units; motorcycles, tanks, artillery, antiaircraft artillery got mixed in the columns. Perhaps the panzer division was hurrying a little too hard to the rescue of the parachutists who had been dropped that morning along the Albert Canal.

As the columns neared Maastricht and the Meuse, as their heads came out of the hills where the road dipped down to the valley, there was no sign of activity from

Eben Emael, the great fortress that commanded the Maastricht approaches. All things however were not to go this well. Just as the columns came in sight of the river, three great explosions shook the road beneath the tanks and the trucks. The bridges—the bridges over the Meuse into Maastricht. The Dutch had blown their bridges with less than an hour to spare.

The 2d Tank Battalion reached the Meuse across from Maastricht at 8:30 A.M. It was the first panzer unit to come to the river but it found other German units already there. Three miles west of the river, holding the bridge over the Albert Canal in the face of strong counterattacks, was a rapidly dwindling detachment of paratroopers. On the near bank of the Meuse getting ready to force a crossing was the special "assault detachment" which during the course of this day and the next was to reduce completely the fortress of Eben Emael.

The tanks of the 2d Battalion took positions close to the river and covered the crossing of the assault detachment. The battalion then went into bivouac under the poplar trees on the near side of the river. During the night bridge-trains came up, probably those of the panzer division itself, and the engineers finished a pontoon bridge in place of the ones the Dutch had demolished. The way to the west was now open. Or, as the Germans like to put it, the way to the east for the British and French was closed.

Every stream-crossing, of course, is a problem in itself. This one was peculiar in that the panzer units came to the river just in time to help another unit make good its crossing. More often, when a panzer division came to a weakly held waterway (most streams in France were only thus held) it would go into action much as follows: Panzer reconnaissance troops in motorcycles and scout cars, carrying with them their small (three-man) pneumatic boats, would approach as close to the

near bank as they could. Under the cover of their own machine-gun fire, the troops would inflate their boats, rush them to the water, and paddle across. The crossing was on a broad front with as much speed as possible. On the far bank, the troops would set up their machine guns and join in the fight. If heavy support was needed, the initial crossing would be held up until the supporting weapons of artillery and infantry could open their fires. Often smoke was used to hide the troops as they crossed. Right behind the initial waves would come the engineers, with larger pneumatic boats. These troops concentrated on getting rafts of 4-ton capacity into operation. These were used in turn to get the antitank guns and other infantry weapons across, and even vehicles. Meanwhile, the bridge-trains came up, heavier ferries went into operation, and finally a ponton bridge, usually 28-tons capacity, was constructed. Throughout the whole operation, all the different ferries would be operated to maximum capacity, pouring new strength into the bridgeheads.

It is plain that tactics like these could only be effective against minor resistance. The very few times that panzer divisions came to strongly-held waterways, the crossings were only successful, either after a terrific artillery or Stuka bombardment to prepare the way, or after infantry and artillery had established the bridgehead. (Map 3, page 48)

The days that immediately followed the crossing at Maastricht were quiet ones for the 1st Panzer Division. During those days the division moved on across the ponton bridge and took up a bivouac northwest of Liége. Meanwhile, and without panzer help, important things had been happening. Eben Emael had fallen, the line of the Albert Canal had been forced and turned, and the Allied defenders were withdrawing to the pre-

pared positions of the "Dyle Line," which ran from Namur north to Antwerp. Farther to the north the parachutists had done their work at Rotterdam, the Grebbe and the Peel lines had been pulverized, and the Dutch capitulation was near. Farther to the south, the panzer spearhead of the main effort had swept over the French cavalry and through the Ardennes, and was about to take the vital but lightly-held Meuse almost in stride.

The commander of the 2d Tank Battalion, of course, was without benefit of any such glimpse of the whole big picture. All he knew was what he read in the order that came down early on the morning of May 13th. The order concerned the attack to be made that same morning "by several divisions." The enemy was described as withdrawing to the Dyle. Resistance, including the possibility of mechanized counterattack, was to be expected west of Liége.

The battalion left its bivouac area at 10:00 that morning. Apparently, German infantry was holding a line that ran just to the west of Liége. The battalion reached an assembly area just in rear of the positions occupied by the artillery about the time, apparently, when the artillery opened up at 11:00 with a heavy bombardment, the fire of which was centered on villages and other areas reported by air observation as occupied by enemy troops. At 12:00 noon the Stukas appeared and for exactly one-half hour they gave the villages a tremendous Stuka pounding. At 12:45 the tank attack jumped off. The artillery was still firing.

As here on the west of Liége, both artillery and Stuka support were normally provided for attacks delivered by tanks. The Stukas were especially effective against resistance concentrated in villages. But artillery was better than aircraft against antitank positions.

Observation aviation also figured prominently in

most panzer operations, as it did in this one. It sought out hostile reinforcements, battery positions, minefields. It spotted artillery fires. It guided bombardment formations to their targets.

Air units and artillery were both definitely under command of the commander on the ground, thus to coördinate fully their action with the action of close contact units. The commander of a panzer division always had a command plane at his personal disposal, ready to fly him over the battlefield, or back to a higher headquarters.

Jumping off at 12:45 P.M., the tank attack rolled due west. Hundreds of tanks sped forward, so it appears, on a broader front than the eye could readily span. The terrain was open and gently rolling. There were few patches of woods, few villages, and no obstacles more formidable than the ordinary fences of farms. A cardinal principle governing the employment of tanks in panzer divisions is that the terrain *must* be favorable. Here it was more than favorable; it was almost perfect for tanks. And the weather was clear and dry.

The attack moved rapidly on. But as the miles passed under the treads, the ground changed somewhat for the worse. More woods, more villages, than before. These were still being hammered by artillery fire. The tanks went wide around them. There was less risk of losing some tanks, for these places might be held strongly. There was no means at hand of rapidly finding this out, so why run the risk? They were not likely to contain any armored forces in strength and would be taken later by combat units following behind.

Here was the normal panzer attack over open country like this—an advance in lines of tanks over broad (say, 1,000-yard) fronts. The tank battalions were abreast and each was disposed in depth. Sometimes the light tanks led, and at other times the mediums were first.

If parts of the attacking line succeeded in breaking through the enemy's defenses, as often happened where those defenses were slender, no attempt was made after that to maintain an even advance. With this in mind, small units in the attack—for example, reinforced companies of tanks—were often given unlimited objectives in the initial orders for the attack, apparently when it was believed the resistance they would meet would not be heavy. If such units did get through the hostile defense, they went right on regardless of their unprotected flanks. In rear of the enemy lines, the small group of tanks would overrun supply lines and command posts. Often these activities induced the enemy to believe that he was being completely surrounded. Several times, indeed, these deep penetrations by small units even brought about major withdrawals, and this when the withdrawing forces had sustained no frontal attack.

The rifle brigade of the panzer division habitually followed closely behind the attacking tanks. These were by no means purely infantry units which rolled forward days later to take over ground that had been gained by the armored elements. Instead, whenever German tanks were held up, German infantry appeared in very short order. The infantry at once emplaced its mortars, machine guns, and antitank weapons. And if the hold-up of the tanks was sustained, if they could not advance any farther, divisional artillery or air support was soon provided by higher command. Often, as we have already seen, the tanks were withdrawn to be moved, if possible, against the flanks and rear of the enemy.

This coördination between tanks and follow-up infantry was so close that it was often hard to say whether the tanks were reinforcing the infantry or the infantry was reinforcing the tanks. Unquestionably both can be said to have been true at one time or another. When the German tanks by-passed a stout resistance, as for

example the villages west of Liége, they did this in the knowledge that the follow-up infantry and artillery would take care of the situation. However, this bypassing of centers of resistance was by no means a universal practice. When the situation seemed to demand it, as will develop later in this account, the German tanks did not hesitate to move directly against the resistance. But as a general thing the panzer divisions were used to attack weakly-held areas. Where the enemy strongly defended his lines, the breakthrough often was made by infantry and artillery. The panzer units were then sent through the gap in order to exploit the success.

Throughout the big thing was teamwork. And in this teamwork each particular kind of fighting unit was called upon, whenever possible, to do the thing it could best accomplish.

To go back to the west of Liége, the tanks continued to advance, meeting few signs of enemy resistance until the 2d Tank Battalion approached the village of Merdorp. Here as it moved to pass the village it came under heavy fire.

The reaction of the panzer unit to this fire from Merdorp was typical. The tanks of the battalion at once sought cover from it. There was a short "orientation halt" during which the officers studied the situation through field glasses. The situation was simple enough. French tanks were in action firing from the town. This, of course, was the moment for which every German tanker had been waiting, the moment of the test in which, as one somewhat florid German account puts it, "the fledgling German panzer arm was to be pitted against the vast tank forces of the enemy in the west." An attack was soon decided upon.

But it was no hasty, dramatic battle of charging stroke

and counterstroke that followed. While the French tanks stayed in and near the village, the two German tank battalions deployed in a rough semicircle lying out to the *west* of the village. There followed no clash at close quarters. It was simply a fire fight. Each German tank sought a defiladed position. With the ground thus protecting the body of the tank, its crew would fire a well-aimed round or two and then shift to a new but similar position. The German fire had apparently little effect, and it further appears that this fire fight of Merdorp brought few losses to either side. The French armor was too thick for German guns. And on the other hand, the concealment and movement of the German tanks prevented many hits by the French. It would seem from all this that the situation, as it appeared to the Germans, called for no heavy and costly attack.

While this indecisive fire fight between the tanks was in progress, the motorized infantry units of the panzer division were closing up from the rear. But before the infantry actually had arrived, the commander of the tank brigade decided to revert to typical procedure. Accordingly, he ordered the fight at Merdorp to be broken off by the tanks, and the village to be by-passed to the south.

But the by-passing of Merdorp was to have unexpected results. The French tanks, instead of withdrawing in the face of a threat to their flank and rear, stayed in the village. And somewhere around the time the German infantry was getting out of its trucks, the French tanks came rolling out of Merdorp again toward those infantry units. Thus now it was suddenly the German rear, not that of the French, which was threatened. But the commander of the German 1st Tank Regiment took energetic measures to meet the development. He ordered the 1st Tank Battalion immediately

to reverse its direction of advance and attack the French tanks coming out of Merdorp. The 2d Tank Battalion was to continue its advance to the west.

The action that now ensued east of Merdorp marked the high tide of the world's first great battle of tank-versus-tank. Details are lacking, but combining fact with deduction we can conjure up a picture that is fairly complete. There is a doubt as to the total forces involved. The 1st, and possibly one other panzer division were on the German side, and the 1st Light Mechanized Division was on the French side. One German chronicler remarks that the Germans were greatly outnumbered; but that need not keep us from concluding that the opposite was more probably true.

As for the tanks themselves, it was German speed against French power. As we have seen, in the German tank battalion three of the companies had tanks of the PzKw II (10-ton) class and the other had tanks of the PzKw IV (22-ton) class. The armor of the one was about 0.6 inch and of the larger tank about 1.6 inches. The armament of the light tank consisted chiefly of one 20-mm. (.80 caliber) machine gun; that of the heavier tank, one 75-mm. cannon. Against these "mixed battalions," in which the light tank predominated in a ratio of three to one, the French sent tanks of their Somua and "B" class. The "B" tanks weighed about thirty-two tons and had 2.4 inches of armor, and carried a 75-mm. cannon. The Somua tanks weighed about 20 tons and had two inches of armor and carried a 37-mm. gun. The lighter German tanks could literally run rings around the heavy French tanks. But on the other hand, it took nothing less than a hit from the main armament of a PzKw IV—a medium—to put the French B-tank well out of commission.

There is an indication, too, of some significant differences in the German and French technique in the

employment of tanks. On the German side, the battalion commander maintained effective control of operations by means of radio and visual signals. He kept the battalion rather closely assembled, and committed it to action as a unit. On the French side, there was apparently no such central control. The French tanks operated singly or in small groups. New groups were constantly appearing, but at best it was a piecemeal procedure. As for the actual fighting, the German tanks, as usual, fired only from the halt to gain the much greater accuracy which this allows. But between rounds they were constantly on the move and their mobility, of course, was definitely superior to that of the French tanks. It appears that most of the fighting was at relatively long ranges, and we get the picture of big French tanks in dispersed groups being circled and engaged on all sides, but from some distance, by large groups of the German tanks.

Here we see plainly an important circumstance that characterized most panzer-unit operations. They always appeared to be under the firm control of the unit commander. This was true in reinforced companies even when these small units penetrated far to the enemy's rear on missions in which they had been given unlimited objectives. The chief means for this control was the radio, but the radio was supplemented by other means—messengers, flares, signals to and from aircraft.

How tanks were identified by other tanks during the action near Merdorp is not clear. It is plain, however, that both sides had much difficulty throughout the campaign in this matter. Many times friendly tanks fired on others of their own side, or did not fire on the enemy's tanks when they should have.

While the 1st Battalion was fighting this action near Merdorp, the 2d Tank Battalion was pushing on ahead. Now, however, the battalion was no longer by-passing

islands of determined enemy resistance. Instead, the method was now to concentrate the fire on such areas. In this tighter situation it was no longer practicable, it appears, for the Germans to continue their normal practice of passing around areas of resistance.

The French practice of doing things in small groups resulted in one period of excitement for the 2d Tank Battalion. The battalion was busy at the time pouring its fire into some island of resistance. At the height of this action came the message or signal, "Enemy tanks in the rear." One of the small groups of French tanks had made its way along a streambed and was now emerging and moving against the rear of the German formation. The action of the battalion commander was to order (the order must have been given by radio) the tanks of his heavy-tank company to reverse direction and attack.

The action near Merdorp apparently lasted for about an hour. Though we have no figures indicating either the total forces engaged or the losses encountered, it is likely that the single French mechanized division was simply overwhelmed by the two panzer divisions probably employed. After the hour's fight the remnants of the French force left the field moving towards Gembloux. The German advance continued. This must have been about 5:30 P.M.

As the 2d Battalion prepared to resume its advance it spotted enemy activity near a water tower south of the village of Iandrain. Again there was no by-passing; the battalion was ordered to swing to the right and clear up the situation. Apparently, it looked to be a simple enough mission.

As the 2d Tank Battalion headed for the heights of Iandrain, another element had entered the picture: ammunition was running low. Over the radios came

orders that except in certain circumstances fire would be decreased, and that in some circumstances it would be withheld altogether.

To reach the heights of Iandrain the 2d Tank Battalion had to cross a wide open field under fire of the guns from the enemy position. So now the battalion put on full speed. One tank, running wide open, crashed into a small ravine which the driver didn't see at the speed his tank was going. Even at this speed the battalion commander had things under control, and kept his battalion acting as a unit. As the tanks stormed up the slope to the plateau above, things still looked simple. But once they gained the heights, they found that there were many French B-tanks on the heights and that on all sides infantry were entrenched. But apparently the infantry were chiefly armed with machine guns, and had only a few AT guns.

It didn't take long, however, to clear the heights, or nearly so. The ammunition situation had become critical, and so the idea of any immediate continuation of the general advance was out of the question. Instead the battalion established a front to the west, making use of the heavy tanks for this purpose. The other tanks, the mass of the battalion, took cover in a creek valley and the crews of all tanks were now able to get a little rest.

During this short rest period, fire continued to come from the village of Iandrain itself. Finally, the battalion commander detailed a company of light tanks and a platoon of engineers to go over and mop the place up. These engineers had apparently been riding their trucks just behind the tanks. The mop-up job yielded five tanks, four antitank guns, and 400 prisoners.

A few minutes more and elements of the divisional supply train pulled up with gasoline and ammunition. After a rapid distribution all around, a new order came

to continue the advance. The objective was now the town of Ramillies. The terrain was still easy, and now there was no resistance. For some reason, the battalion commander made a point of conducting the advance in a precise formation. As darkness fell the battalion occupied Ramillies.

In general, the supply of a panzer division was cared for by its own transportation. But where this transportation was inadequate, supply columns from Army were sent forward. The supply elements organic in the division not only carried fuel, ammunition, and food, but in addition included a reservoir of mechanics, spare drivers, and spare tanks.

Following a breakthrough, however, panzer units attempted to live off the land, relying only for ammunition on their own supply. Where they could not find fuel locally, it was sent up to them by air. This was the method only when tanks went far into enemy territory and the situation did not permit the unarmored vehicles of their supply trains to follow them. It was, however, the availability of relief crews and replacement tanks that made sustained advances of panzer divisions possible. Whenever a new tank was sent forward, a complete operating crew came with it.

The 2d Tank Battalion bivouacked for the night in and near Ramillies. The bivouac was entered later in the day than was usual with the panzer divisions. For they were used strictly as daytime instruments of war. The work-day was short, the normal practice being to move out late in the morning (as this one had that day) and go into protected areas fairly early in the afternoon.

By the time it went into bivouac the division had traveled about thirty-five miles during the whole of its action. During the first ten days of the campaign it went from twenty to twenty-five miles per day. Later,

against the British, this came down to something like eight miles per day. Still later, after resistance had practically ceased in the Battle of France, the division on some days made over thirty-five miles.

Against the British, it is doubtful if the panzer divisions ever operated more than five or ten miles in front of the regular infantry divisions. But against the French, after serious resistance had dwindled, panzer divisions sometimes went more than fifty miles ahead of them. Always, however, the motorized infantry of the panzer divisions themselves stayed relatively close to the advancing units of tanks.

By early next morning (May 14th) everything had been made ready for further action, and the battalion was awaiting its orders. The Dyle River, along which the Allies were known to be making their important stand, was only fifteen miles more to the west. During the first morning hours reports from air observation gave the division commander particulars of the great antitank obstacle which formed sort of an outpost position out in front of the Dyle position itself. This obstacle consisted essentially of a steel wall, fabricated in place from steel shapes (I-beams, channel beams, and the like). It was perhaps six feet high, and no tank could possibly climb it or breach it. The wall was supplemented by a system of field fortifications, with much barbed wire and many trenches.

Before very long, the division field order came down. The Great Obstacle was to be passed and the main Dyle position broken through, all on this day of May 14th.

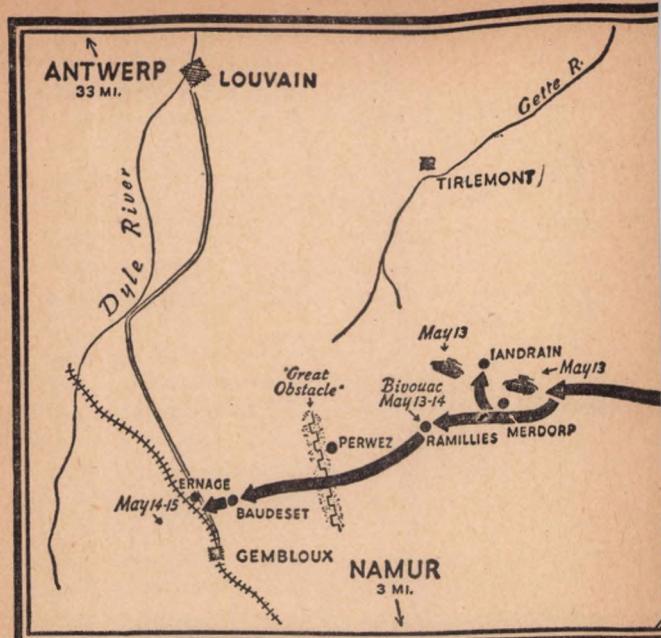
The advance of the 2d Tank Battalion from its bivouac area to the obstacle went off without a shot being fired. The obstacle was itself a practical demonstration that an obstacle not defended by fire is nothing

but an annoyance, for the French and Belgians had abandoned this one; it was undefended. The German tanks simply drew back; engineers in their trucks came forward, and within a few minutes blasted a number of paths through the steel. The tanks then came up and filed through these paths. At the moment of filing through, they must have presented a vulnerable target. But only an occasional French airplane was at hand to take advantage of the chance. On the other side of the obstacle, the tanks deployed again and continued their advance.

Now to the front of the battalion, the main Dyle position lay along the railway line running northwest from Gembloux. The 2d Battalion sector lay just to the north of Gembloux, encompassing the village of Baudeset. The battalion advanced on that village. East of the village, probably to the southwest of Perwez, it ran into the first important resistance of the day. French tanks came attacking from the woods along the route. This held the 2d Tank Battalion up for a few minutes, until a flanking maneuver of the 1st Battalion forced the enemy to withdraw toward the west.

This incident had a repercussion in the "second wave" of the division. This second wave apparently consisted of motorized infantry and the motorized engineer battalion of the division. This last battalion was advancing well toward the front in the division, not very far behind the tanks, when six or eight French tanks appeared. These had apparently laid low during the previous action, intending to strike at the vulnerable motorized waves farther back.

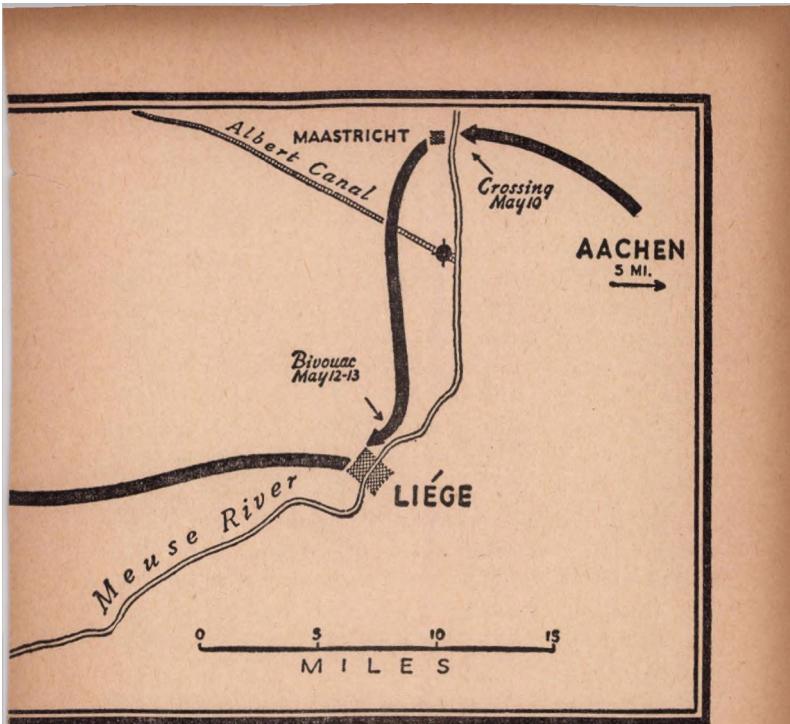
It happened that the commander of the engineer battalion had an antitank gun the battalion had captured in Poland. With this and the help of some big blocks of TNT thrown by hand, the battalion drove the tanks back out of the action.



Map 3: Advance of the

By now it was midday. The attacking battalions of tanks drew up for a short rest, and for an estimate of the situation. With the main Dyle positions immediately to the front, the crisis of the attack was at hand. An order, reaffirming the mission of the battalion—to break through the enemy line—came down, and early in the afternoon the final advance got under way.

In this pay-off advance on the main position of the enemy, two companies of tanks were in the leading echelon. The 8th Company (heavy tanks) was on the left; the 5th Company (light tanks) was on the right. The 6th Company (light tanks) was in support, follow-



1st Panzer Division, May 10-17, 1940

ing close behind the companies in front. Where the 7th Company was we do not know; but it may have been broken up in order to make up losses and bring the others closer to full strength.

In any event, the battalion went by Baudeset without important incident. Then, as the first tanks started across the wide highway west of Baudeset, they came under heavy artillery fire. On the left, the 8th Company crossed the highway and headed for the railway line a few hundred yards to the west. Apparently, the 5th was held on the east of the highway.

At the railway line the 8th Company was brought up

short. The line lay in a deep cut, impassable to tanks except at a few places. Down in the cut, and on the other side of it, the French were firing from strong emplacements. Thus, the 8th Company up on the bank was receiving both artillery fire and fire from the enemy beyond the cut.

As soon as he saw the predicament of his heavy tanks, the battalion commander sent in his reserve, the 5th Company, which he ordered to concentrate its fire on the emplaced enemy across the cut from the 8th Company. Then he reconnoitered the situation further, decided he would have to withdraw the 8th Company, and cover the withdrawal by an attack on the flank by the 5th Company.

The 5th Company moved to the flank and made its attack, and presumably the 8th Company withdrew back beyond the highway. Going to the right flank now, the battalion commander saw that the 5th Company was also up against an impossible situation. What he had to have, he concluded, was artillery support. But mobile as it was, the motorized artillery of the division had not been able to keep pace with the tanks.

By now the commander of the tank brigade had come up and he, too, saw the futility of further assault without artillery. He accordingly ordered both of his tank regiments to fall back near Baudeset, there reorganize and get ready to attack again later in the afternoon. The withdrawal of the 2d Tank Battalion and the rest of its regiment was covered by the 6th Company which stayed near the highway holding the enemy positions in general under fire.

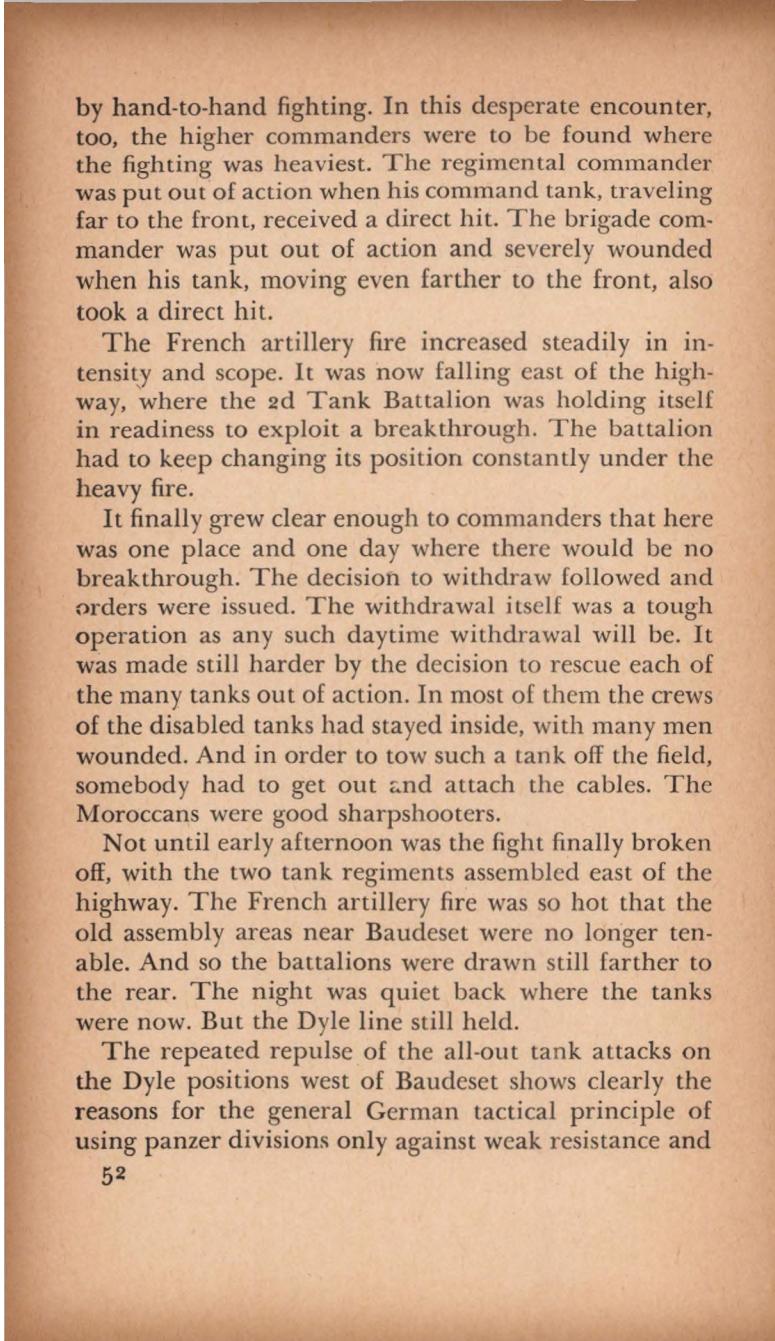
This abortive attack on the rail line had been costly. As the battalions withdrew to their assembly areas north and south of Baudeset, the French artillery fire followed them, and losses continued. But the German units

accepted the losses and held their ground. By 5:00 P.M., the divisional artillery began to arrive and soon the situation was being helped by counter-battery fire. But still later on an order arrived postponing the attack until the next morning.

A bad night followed for the Germans. The French artillery fire was intense. It was apparently the first time the German tank units had been under such a bombardment. Each crew finally dug a shallow pit for itself, drove the tank over the pit, and slept, or at least lay in relative comfort and security. However, through occasional direct hits, tank losses continued to mount.

The attack on the morning of the 15th was a co-ordinated all-out affair. The divisional artillery had been pounding the enemy positions and its fires were ready to support the attack. Combined with this strong support was that of Stuka bomber units which appeared in the early morning. The 1st Tank Regiment now rolled forward over the same ground as the day before. This time, the 1st Battalion was leading and the 2d Battalion in reserve. Despite the artillery and Stuka support, the job was no easier today than it had been before. The tanks of the 1st Battalion had first to cross the open area west of the highway which now was under terrific bombardment. And as they arrived in sight of the railway line, the tanks again caught a heavy fire from the emplacements there (which were manned by two Moroccan divisions).

And again, as on the day before, the tank attack came to an abrupt halt in front of the rail line. Losses were already many, especially among the heavy tanks, which always seemed to draw the heaviest fire. But the tanks fought steadily and fiercely back, and there were actions of heroism on the part of more than one tank crew. The officer leaders of several crews left their tanks and tried to overcome especially troublesome obstacles and guns



by hand-to-hand fighting. In this desperate encounter, too, the higher commanders were to be found where the fighting was heaviest. The regimental commander was put out of action when his command tank, traveling far to the front, received a direct hit. The brigade commander was put out of action and severely wounded when his tank, moving even farther to the front, also took a direct hit.

The French artillery fire increased steadily in intensity and scope. It was now falling east of the highway, where the 2d Tank Battalion was holding itself in readiness to exploit a breakthrough. The battalion had to keep changing its position constantly under the heavy fire.

It finally grew clear enough to commanders that here was one place and one day where there would be no breakthrough. The decision to withdraw followed and orders were issued. The withdrawal itself was a tough operation as any such daytime withdrawal will be. It was made still harder by the decision to rescue each of the many tanks out of action. In most of them the crews of the disabled tanks had stayed inside, with many men wounded. And in order to tow such a tank off the field, somebody had to get out and attach the cables. The Moroccans were good sharpshooters.

Not until early afternoon was the fight finally broken off, with the two tank regiments assembled east of the highway. The French artillery fire was so hot that the old assembly areas near Baudeset were no longer tenable. And so the battalions were drawn still farther to the rear. The night was quiet back where the tanks were now. But the Dyle line still held.

The repeated repulse of the all-out tank attacks on the Dyle positions west of Baudeset shows clearly the reasons for the general German tactical principle of using panzer divisions only against weak resistance and

over favorable terrain. There is no indication that, left to their own devices, the panzer tanks would ever have succeeded in crossing over that railroad cut.

Early the next morning (May 16th), as the 2d Battalion was hastening to make itself as ready as it could for the day's work to come, there came in the cheerful news that during the night the Allies had abandoned their positions. Before long came an order to prepare to join the pursuit; so everyone continued to make ready in haste. The 1st Tank Regiment was assigned a place in the column behind the 2d Tank Regiment. But since the pursuit did not proceed as rapidly as had been expected, the 1st Regiment actually did not move out until the morning of the 17th. During the day of the 16th, the regiment had little to do other than watch the dog-fights in the air over the pursuing columns, and gloat over the daily communiqué, which speaking—it must have been—of some unit other than the 1st Tank Regiment, stated: "Armored units today forced a breakthrough of the important Dyle position."

### CHAPTER III

#### A PANZER DIVISION CROSSES THE MEUSE

ON THE 12th, 13th, and 14th of May, German panzer units crossed the Meuse River at many points—and by several methods. Down south near Sedan, where the stakes were high and the crossing meant the breaking through of the main French line, the assault was preceded and covered by paralyzing dive-bomber action. But farther north, where the Meuse flows through Belgium and the main French line was miles to the

west, there were few dive bombers—and, of course, little or no artillery.

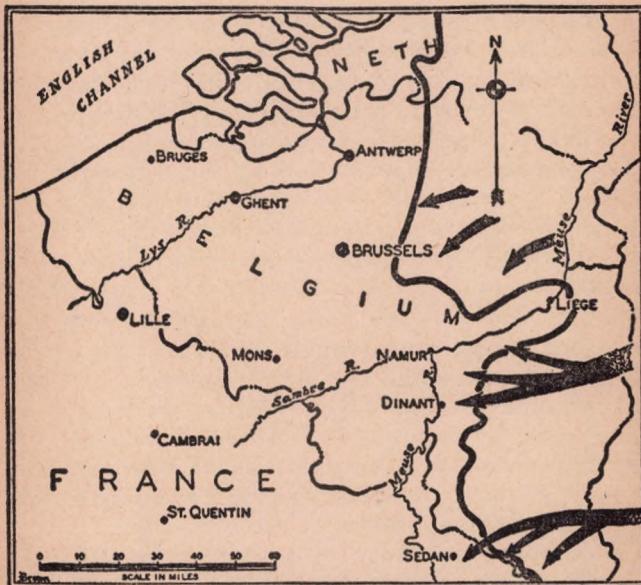
This brings us to the afternoon of Sunday, May 12th, and to a road junction a few miles east of the Belgian town of Houx-on-the-Meuse, northwest of Dinant. (See map 4.) We are now located on the extreme right (northern) flank of the sixty-mile front along which the great breakthrough was impending. At the time and place in question, we pick up the advance guard of a certain panzer division. The exact composition of this advance guard is not known; but it included tanks, scout cars, and motorcycle infantry.

The advance guard had halted at the road junction (map 5), and the commander had given his orders. The main part of the force, including all of the tanks, was to take the turn to the left. A small detachment, consisting of three scout cars and a platoon of motorcycle infantry, was to move straight ahead, toward the town of Houx. This detachment is our immediate concern.

The scout cars, followed by the motorcycles, rolled along through the deserted villages without incident but with "adequate security." When the road began to dip downward toward the valley of the Meuse, the column reduced its speed and increased its caution. This is the point at which our chronicler (the commander of the motorcycle platoon?), whose flair for the dramatic unfortunately is not matched by his attention to detail, describes the Meuse as "a deep moat, crossed only by drawbridges, all of them now drawn." As a matter of fact, the Meuse at Houx is about seventy yards wide, and lies in a narrow valley bounded by high rocky bluffs. Along the far (west) bank runs a railway embankment.

Dramatic description notwithstanding, one bridge across the "moat" remained intact and undrawn on this Sunday afternoon. It was the railway bridge at Houx,

which stood there safe and sound and apparently undefended as our detachment drove into view of the river. This looked like a great break, and the scout cars were quick to take advantage of it. The first car had reached the center of the bridge, the second was about ten yards behind, and the third was still on the bank when—some



Map 4: The general situation on May 12th

Belgian engineer pulled the switch, and the explosion came. Steel, stone, cars, and crews went up into the air and down into the water. The Houx bridge had passed out of the picture as a factor in the German crossing of the Meuse.

As the two scout cars thus were being blown into the river and out of the war and this story, the motorcycle

platoon apparently had been under cover back near the bluffs. By this time, the Belgian artillery had opened up and was dropping shells on the approaches to the far (eastern) bank. In this connection, the artillery of the great Meuse fortress of Dinant, southwest of Houx, was especially effective. Nevertheless, the panzer division continued to come up, and reconnaissance parties were active along the entire bank. One such party consisted of our motorcycle platoon, now working its way afoot across the valley toward the river. The going was slow, inasmuch as any activity discernible to observers on the far bank brought bursts of machine-gun fire. Finally (it must have been late afternoon), the reconnoiterers reached the river bank—and reached it exactly at the site of an old, low dam. Our chronicler infers that the existence of this dam had never been suspected and that its discovery came as a great and welcome surprise. This inference may be questioned, inasmuch as even the 1:200,000 French maps indicate a lock at the point in question. In any event, the dam looked to be about to fall to pieces. Water was streaming through it as though through a sieve. It was in such bad shape that the Belgians apparently had not considered the possibility of its use in connection with a river crossing. But the Germans were considering that very thing.

Meanwhile, behind an embankment a few hundred yards to the rear, the colonel commanding the advance guard was busy sending out reconnaissance parties and receiving reconnaissance reports. After darkness had fallen, he gave his orders. The crossing was to be forced at Houx. The attack was to jump off at 5:30 in the morning. During the remainder of the night, reconnaissance was to be continued—and was to be extended to the far bank.

The troops assigned to the far-bank reconnaissance constituted an "assault detachment." The exact size

and composition of this detachment is not recorded, but apparently it consisted chiefly of the motorcycle platoon and a few engineers. The detachment moved out well-stocked with that distinguishing feature of German assault parties: the hand grenade. The soldiers must have resembled walking arsenals—hand grenades in bundles slung over the shoulders; hand grenades stuck into the tops of boots; hand grenades stuck between the buttons of blouses.

The detachment made its way slowly to the river, moving by bounds, and freezing in position whenever an enemy star shell burst overhead. The route had been planned so as to lead to the old dam. The idea was to use the dam as a footbridge for crossing over to the far bank. Arrived at the site, the detachment set up a few machine guns; and then the first man started across—"like walking a tight rope silently and in the dark."

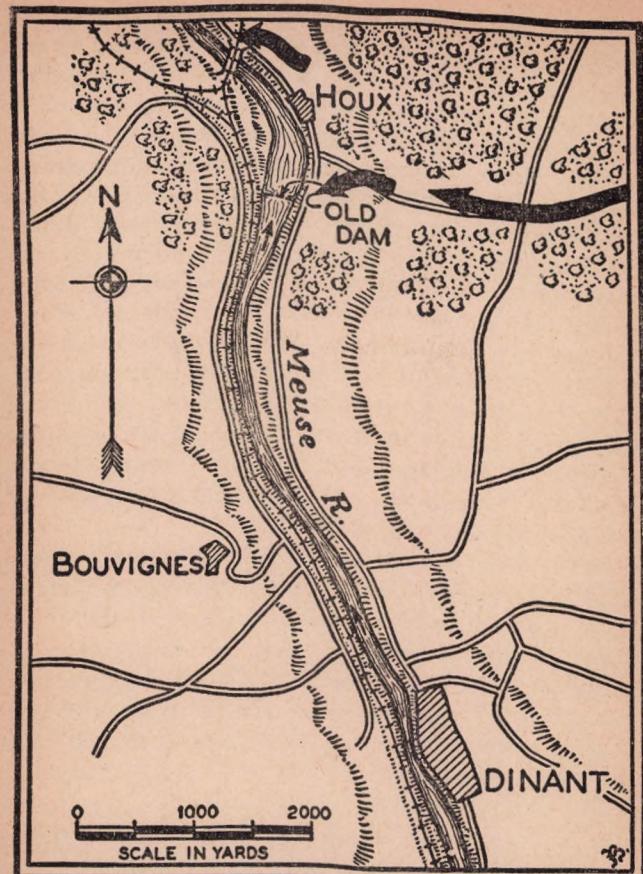
Several of the troops got across in this manner, apparently without drawing enemy attention. As soon as a few of the troops had gathered at the far end of the dam, they started up the bank. The latter was steep, revetted, and rimmed by the railway embankment. The troops must have made considerable noise in climbing, since it was enough finally to awaken the defenders. Thus, as the Germans raised themselves above the embankment, they were met by strong machine-gun fire coming from guns close at hand. They hit the ground, and simultaneously their own machine guns on the other bank opened up. Bullets from the latter began ricocheting off the railway rails and ballast, just above the attackers' heads. Our chronicler admits that here was a situation beyond his powers of description.

Meanwhile, others in the assault detachment were now getting across. Some were walking the dam, and some were ferrying over in pneumatic boats. It is re-

corded that many of the boats were shot to pieces. But the chief danger along the dam route appears to have been the danger of losing balance. On the Belgian bank, the attackers were spreading out along the embankment, maneuvering slowly and cautiously. Finally they succeeded in bringing a few of their light machine guns into position. Details as to the fight in the dark which followed are not available, but eventually the most dangerous of the Belgian guns were silenced, and the Germans advanced over the embankment. They crawled forward over the fields for another 200 yards or so, and then decided to take up a position protecting their "bridgehead." This taking up of position consisted of each man digging himself a foxhole, or otherwise securing cover. At this time, there were several hours of darkness left (our chronicler is eloquent on the subject of how slowly they passed). So, by switching back to the German bank, we will be in time to catch the main crossing scheduled to begin at 5:30 A.M.

Throughout the night the Belgian artillery had continued to pound likely assembly areas on the German bank. In spite of this, preparations for the crossing, including the bringing forward of bridging and ferrying equipment, appear not to have been greatly disrupted. However, as morning approached nature herself introduced a new element in the form of a thick fog which settled over the valley. This fog enabled the Germans to move about on their bank free from direct enemy observation.

It appears that everyone was expecting, or at least hoping for, a swift and easy crossing. However, as the first assault boats started across, the Belgian machine guns opened up along what must have been their final protective lines. The assault boats were stopped. Also stopped was an attempt to cross by footbridge (although, peculiarly enough, the bridge itself was laid



Map 5: Scene of the crossing

and maintained successfully). Things now were looking bad.

At this critical moment, there appeared on the river bank none other than the commanding general of the

division. He had come forward (says our chronicler) the hard and dangerous way, crawling and freezing and bounding and taking his chances just like any other soldier. The general saw that the crossing was to be no set-up, and that what was needed was some supporting fire. His reaction to that conclusion forms perhaps the most interesting aspect of this whole action, and provides us with an example of how the tanks of panzer divisions are often used to cover and support the advance over obstacles of other elements of the division.

The general's reaction was to order some of the medium tanks to positions close to the river bank. At this time, the fog was lifting but visibility still was poor. The tanks came up, took positions, and opened with machine guns and cannon on the enemy machine guns which were holding up the assault crossing. Under cover of this fire of the tanks, the crossing attempt was resumed, and this time was successful.

The crossing operation was still in its early phases when a new menace developed, consisting of Belgian tanks, reported to be sweeping down from the north obviously with a view to snuffing out the bridgehead before it could be consolidated. So far, no rafts had been put in operation, and as a result only infantry and infantry weapons had been put across. It looked as if there was nothing with which to stop the tank attack.

Here again the general had the answer—had it in the form of a stratagem which would read more appropriately in *Terry and the Pirates* than in *Militärwissenschaftliche Rundschau*. The general ordered the infantry to open fire on the advancing tanks—with flare pistols. The order was carried out. And so, as the tanks advanced through the mists, the crews saw themselves under the fire of projectiles which left fiery trails over flat trajectories. According to our chronicler, the

Belgian crews thereupon concluded (as the general said they would) that they were running into a mass of antitank guns which at the moment were sighting in with a few tracer rounds. Thereupon, the tanks turned and left the field (as the general said they would).

The affair of the flare pistols and the tanks marked the last important crisis in the crossing operation. During the course of the morning, the engineers got several vehicular ferries in operation, and began setting across tanks, vehicles, and heavy weapons in a steady stream. Meanwhile, the construction of a ponton bridge was begun, and was completed in due course, even though the engineers occasionally had to lay aside their tools and add their fire to that of the antiair batteries against low-flying enemy planes.

As the first assault waves got across and pushed forward, they passed over (probably to their surprise) the reconnaissance party which we left in its foxholes the night before. Our chronicler is at his eloquent best in describing the way in which this reconnaissance party had held its ground throughout bombardment, and counter-bombardment. But on the subject of just what purpose was served by all this, he is eloquently silent.

#### CHAPTER IV

#### BREAKTHROUGH ON THE SOMME

IT IS unlikely that the German crossings of the lower Somme on June 5, 1940, will ever rank among the great river crossings of history. For one thing, the operation lacked the element of strong and determined resistance. However, this chapter does not especially aim to record any epoch-making events, and therefore

it is in order for us to consider the case of the German 63d Infantry.<sup>1</sup>

During the first few days of June, as the Battle of France impended, the 63d Infantry busied itself on reconnaissance missions north of the Somme. All along that river, the Germans were poised for the jumpoff. At several points they had established and maintained bridgeheads—as for example at St. Valery, near the mouth of the Somme, and at Amiens. On the night of June 3d-4th, the 63d Infantry moved up to the river in a sector located only about four miles west of the Amiens bridgehead. Directly across from the regiment the French patrolled the river bank, but having failed to reduce even a single bridgehead, they were in no position to oppose the crossing seriously.

Indeed, it is probable that the 63d Infantry was more concerned at the time with the physical difficulties offered by the Somme Valley itself than with any resistance likely to be offered by the French defenders. A glance at the accompanying map (map 6) tells much of the story. Below Amiens, the Somme is a sluggish stream about sixty yards wide. More formidable as an obstacle than the river itself is the river valley, about three-quarters of a mile wide, which consists largely of weedy, swampy lowlands, liberally sprinkled with small lakes and lagoons. The bluffs bordering the river valley are rugged and high, but in general they are not wooded.

On the night of June 3d-4th, the 63d Infantry moved up into its sector “preparatory to a crossing of the

<sup>1</sup> The component parts of the German infantry regiment are about as follows: Headquarters; cavalry reconnaissance detachment; 1st, 2d, 3d Battalions (each with three rifle, one MG, companies); one infantry-howitzer company (13th, with three platoons 75-mm. howitzers, one platoon 150-mm. howitzers); and, one antitank company (14th, with three platoons 37-mm. guns).

Somme." The limits of the sector are indicated on the map. In the initial regimental dispositions the 1st Battalion took over the front through the entire sector as a security measure against the highly improbable chance of a French attack over the river. The 2d and 3d Battalions, earmarked for the assault, moved into bivouacs in the Bois Ducroquet and the woods south of Flesselles, respectively. One platoon of light, infantry howitzers went into position in a draw 400 yards west of Camp Romain, and one platoon of heavy, infantry howitzers went into position in a draw just north of the same village. The rest of the Howitzer Company (13th), and all of the Antitank Company (14th) moved into bivouacs in the woods west of Flesselles. The regimental headquarters, and the Headquarters Company bivouacked near the church of Flesselles. The regimental trains were assembled in a bivouac in the woods west of Flesselles. The whereabouts of an engineer company, attached to the regiment for the purpose of assisting in the crossing, is not recorded.

The moves described above were completed during the night of June 3d-4th. It seems probable that during this same night reconnaissance was carried across the river valley, right up to the bluffs on the French side. The day of June 4th was devoted to further reconnaissance, and to preparation of means for the crossing of the river itself. These preparations were carried out in the draws, from which the French artillery fire that had been falling during the night had conveniently lifted. The engineers, working with parties of infantrymen, improvised two rafts, one each for the 2d and 3d Battalions. Apparently these rafts consisted of improvised superstructures placed on large pneumatic boats of about four tons capacity. The engineers also improvised the superstructure for a footbridge, to be constructed on small pneumatic boats.

The attack order of the 63d Infantry is not available; but the elements of the regiment's plan for the attack follow:

Time: attack to begin on June 5th at dawn, 4:30 A.M.

Formation: attack to be made by two battalions abreast, 2d Battalion on the right, with one platoon of light howitzers and one platoon of antitank guns attached, 3d Battalion on the left with one platoon of light howitzers and one platoon of anti-tank guns attached.

Boundaries: see map.

Objectives: initial objective for 2d Battalion, the woods south of Hill 74; initial objective for 3d Battalion, the woods south of Hill 99.

Other elements of the regiment:

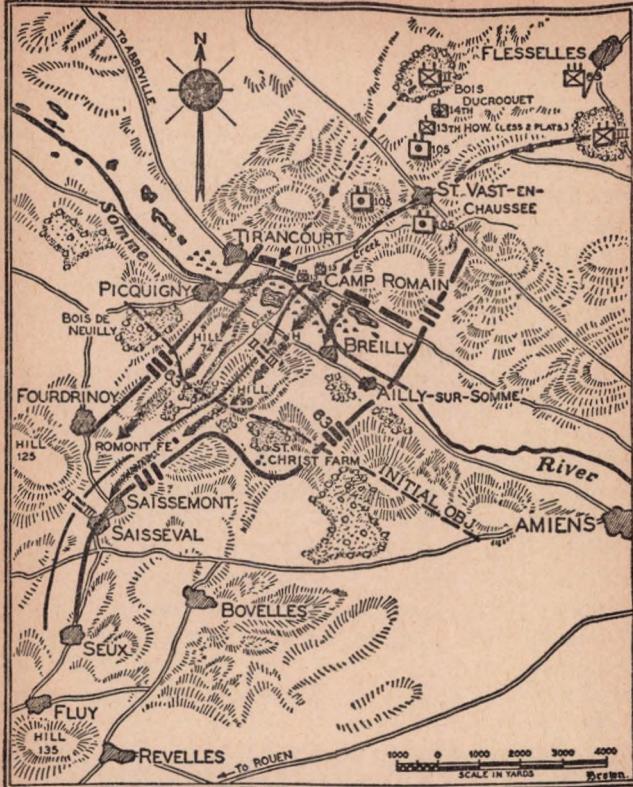
1st Battalion to allow assault battalions to pass through to the attack; to support the attack by fire from its heavy weapons (machine guns), these to be located near Tirancourt and Camp Romain, and to fire on the machine-gun emplacements on the heights across the river.

13th (howitzer) Company (less two platoons) to cross to the far bank as early as possible.

14th (antitank) Company (less two platoons) to cross to the far bank as soon as possible.

Engineer company to establish and operate four-ton ferries, one in each battalion sector; to construct a footbridge in 3d Battalion sector; to construct a four-ton bridge near Breilly.

Supporting artillery: one battalion 105-mm. howitzers to support the attack from positions 1,600 yards west of St. Vast-en-Chaussée; one battalion 105-mm. howitzers from positions in the creek valley south of St. Vast-en-Chaussée; one battalion



Map 6: The 63d Infantry area on the Somme

105-mm. howitzers from positions 900 yards north of St. Vast-en-Chaussée.

Command post: regimental CP to be on the side of the bluff just west of Camp Romain at the beginning of the attack.

In accordance with the plan, the attack jumped off at 4:30 A.M. (June 5th). And in accordance with ex-

pectations, the going was difficult indeed. On the occasional paths which angled across the bottoms the footing was firm, but elsewhere men were likely to sink breast-deep. They helped themselves forward slowly and laboriously, using planks and poles. They crossed the river on the small pneumatic boats (seven feet long, three feet wide, capacity three-four men) which they had carried forward (this apparently without benefit of engineers). On the far bank of the river, the bottoms were still softer and the going was still more difficult. Things were especially bad in the sector of the 3d Battalion.

As the attack began at 4:30 A.M., the artillery and supporting infantry weapons on the near bank had opened up. The artillery was covering various targets. The infantry howitzers had the specific mission of blasting away at the enemy machine-gun emplacements in and near Breilly. Thus the infantry sloshed and waded across the swampy bottoms in the knowledge that the attack was being well supported.

Soon after crossing the river the forward elements of the assault battalions began to come under the fire of machine guns and snipers. The machine guns were located in emplacements on the slopes just above the Picquigny-Breilly wood; the snipers were posted in trees and houses along the river bank. It now developed that the swampy bottoms gave the attackers at least one advantage: they could get good concealment in the rank growth of weeds that covered the entire area. Under cover of the weeds, but still at the cost of heavy losses, the attackers approached the French bluffs. The "decisive moment," the moment for the "assault from the weedy bottoms against the steep slopes and the machine gun emplacements," was at hand.

This was the sort of situation in which "every leader, up to the regimental commander, must be at the head

of his troops." For example, the commander of the 3d Battalion at the head of a small group of his troops, pushed forward toward the house designated as "H" on the map. The commander and his group managed to reach the house—possibly because the French were concentrating on the mass of the battalion still splashing through the mire some distance back. The regimental commander and his staff splashed along with the mass of the 3d Battalion. The situation had grown critical and threatened to become desperate, for the Germans were taking heavy losses. They attempted to set up machine guns in the swampy land with little luck. They could fire their carbines only while standing for the prone position was impossible. The attack had definitely bogged down. At this moment the regimental commander stepped into the breach. He saw that "only an assault by all troops, acting simultaneously all down the line, could bring success." Thereupon he shouted the command to charge, and emphasized it with arm signals. At the same time he ordered a bugler from the 3d Battalion to blow the charge.

It is recorded that the assault waves of the 3d Battalion responded to the personal commands and example of their colonel by rushing forward "regardless of losses." They reached the steep bank, climbed it, and engaged the enemy emplacements hand-to-hand. Presently a light, infantry howitzer which had been ferried across the river (the first evidence that the ferries were in operation) was dragged forward and set up in an open street. With its first round it accounted for a particularly troublesome emplacement. Thereafter things went better.

The 2d Battalion had better terrain over which to operate, but even so its advance was slower than that of the 3d Battalion (possibly because it had no colonel to blow the charge). In fact, the 2d Battalion gained

the bank only after the 3d Battalion had succeeded in its assault and had thereby somewhat relieved the pressure on the 2d Battalion. Meanwhile, the regimental commander had established his CP in the house at "H," and the commander of the 1st Battalion had reported that his units were crossing in the sector of the 2d Battalion and would soon be ready for action.

II

By 7:00 A.M. the 2d and 3d Battalions had reached their initial objectives, but in so doing they had left behind many small groups of French soldiers who were still of a mind to continue the fight. Furthermore, it now developed that neither of the neighboring regiments had yet advanced beyond the south bank of the river; and so the 63d Infantry found itself under flanking fire coming from the adjacent sectors. In this situation the decision was to hold the initial objectives, to consolidate the positions, and to mop up the remaining resistance.

During this phase of the action, strenuous efforts were made to get all the infantry weapons forward. These (the antitank guns and the infantry light and heavy howitzers) were ferried across and brought forward over firm roads and paths. Meanwhile, steps were taken to insure further effective artillery support.

It soon was evident that one of the big mopping-up jobs would be the village of Breilly. It was also one of the most important jobs, since the engineers were to build the four-ton bridge near that point. The original plan had called for a detachment from the 3d Battalion to swing off from the main attack and take Breilly from the rear, but this operation had not proved practicable. Now it was decided to use a company of the 1st Battalion for the job.

In the midst of its work in Breilly, the company of  
68

the 1st Battalion reported that strong enemy units, armed with machine guns, were located in the woods south of Breilly and in the group of buildings north of Ailly-sur-Somme. This report was forwarded to the division (radio?) and very soon there came down an order for the 63d Infantry to seize the two localities named above, even though they were in the sector of another regiment. The 1st Battalion (less the company in Breilly and another retained as regimental reserve) was given the mission. The rest of the regiment continued its work of consolidation and mopping-up and got ready to resume the advance.

The regimental commander issued his order for the continuation of the attack at about 1:15 P.M. By that time the 1st Battalion (less two companies) was still occupied with its mission in the neighboring sector. Apparently the bridge near Breilly had been completed. Extracts from the order read as follows:

1. Enemy machine-gun units hold Romont Fe and St. Christ Fme. Enemy artillery, estimated three batteries, fires on woods south of Hill 99 from positions near Saisseval.
2. This regiment prepares to continue the attack, same formation, boundaries as follows:
  - right: no change
  - left: see map
  - between battalions: see map
3. Attack begins automatically when right neighboring regiment debouches from southern edge Bois de Neuilly; otherwise, on my command.
4. One light artillery battalion supports the attack from positions in the creek valley east of Hill 74; another light artillery battalion supports the attack from positions just west of Breilly.
5. One platoon of light infantry howitzers remains

attached to each of the assault battalions. Rest of 13th (howitzer) Company supports the attack, concentrating on Romont Fe and on the small woods southwest of that point.

6. One platoon of antitank guns remains attached to each of the assault battalions. Rest of 14th (antitank) Company protects outer flanks of assault battalions against tank attacks.
7. 1st Battalion assembles in regimental reserve in woods 600 yards north of Hill 99 as soon as attack begins. Company now engaged in Breilly rejoins 1st Battalion as soon as neighboring regiment enters Breilly.
8. Light regimental train moves over bridge at Breilly to area just south of house at "H."
9. Regimental CP moves to woods 600 yards north of Hill 99.

At 3:00 P.M. the attack again got under way, apparently on further orders from the regimental commander. Everything was in order except that the 1st Battalion was still attempting to clean out the woods in the neighboring sector; and so the regimental reserve consisted only of the company of the 1st Battalion that had been kept back. As expected, the 2d Battalion encountered no serious resistance on its immediate front, and soon had reached the high ground east of Fourdrinoy. There the advance came to a halt, partly because the neighboring units had failed to keep pace, and partly because of stiffened resistance. Meanwhile, the 3d Battalion was involved with many isolated but effectively concealed machine-gun nests in the woods south of Hill 99. After finally mopping up the woods, the battalion was re-formed, and in due course its left flank reached the area southwest of Romont Fe—that is, opposite the heights already reached by the 2d Battalion.

ion. These developments had been followed by the colonel, who, keeping his CP on the move, now had it located in the southwest corner of the woods southwest of Hill 99. As the 3d Battalion drew up even with the 2d Battalion, the time was 5:45 P.M.

The afternoon's progress of the assault battalions had been entirely satisfactory; but the situation as of 5:45 P.M. was not altogether bright. Both neighboring regiments were still far to the rear, a fact evidenced both by the flanking fire that was coming from the neighboring sectors and by the sounds of combat coming from the directions of Picquigny and Bois de Neuilly. The 1st Battalion was still away, although a recently-received message had indicated that it would arrive at the woods west of Hill 99 by 7:00 P.M. Strong French artillery units still were firing from the area Saissemont—Saisseval—Bovelles.

Later in the afternoon, the artillery mentioned above was attacked by German aircraft. Under cover of this attack, the 3d Battalion advanced to within 500 yards of Saissemont, apparently with the intention of capturing some guns. However, flanking fire from the neighboring sector again brought the advance to a halt, and, in fact, forced the attackers hurriedly to dig in. Meanwhile, the 2d Battalion was held on the heights east of Fourdrinoy.

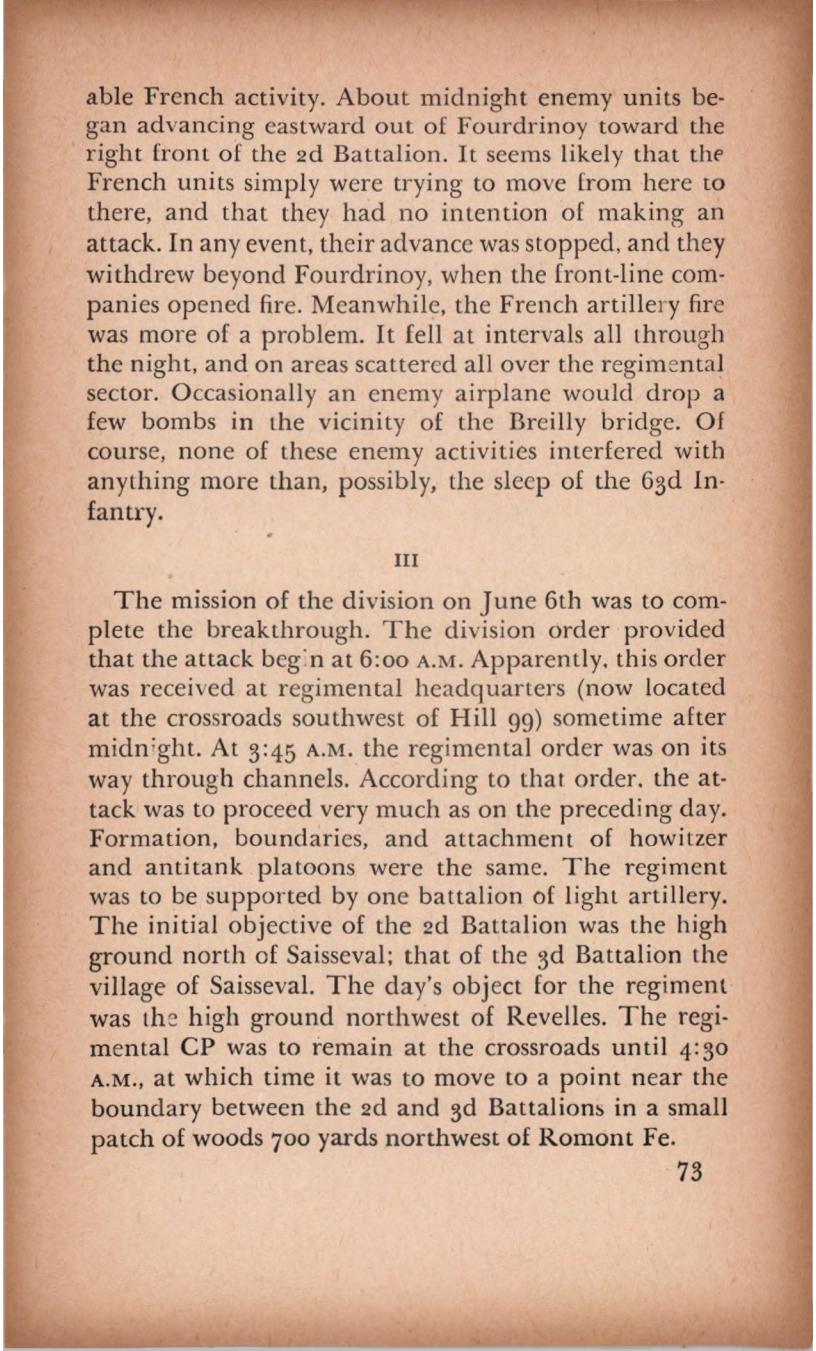
As darkness fell, the 63d Infantry prepared to hold its positions—positions which reached like a narrow finger almost a mile into the enemy lines. To protect their long, open flanks, the battalions employed their reserve companies, echeloning them back toward the rear. About 9:00 P.M. the situation as a whole was greatly improved by the arrival of the 1st Battalion, which had finally finished its good-neighbor mission and had marched up along the creek south of Hill 74 to an as-

sembly area in the woods 600 yards northwest of Romont Fe.

Later, the 63d Infantry was able to evaluate its efforts of June 5th through the medium of that ever-convenient article, captured enemy orders. It appears that the regiment had attacked in a sector defended by the French 13th Division (three regiments, one of them Moroccan). The French 13th Division was supported by four battalions of light artillery and two battalions of heavy artillery. However, the mass of the division was drawn up facing the German bridgehead at Amiens; and the mass of the artillery fire was directed against that bridgehead. Thus, the 63d Infantry's 2d Battalion, being on the right, slipped by the strong enemy defenses and had relatively easy going. The 3d Battalion had encountered two French battalions, located behind the other, oblique to its sector. Thus, the 3d Battalion had found the going difficult and slow. Farther east, the regiment to the left of the 3d Battalion had been all but stopped in its tracks. Farther west, it appears that the regiment to the right of the 2d Battalion had encountered another French division which did not have to divert its attention to the Amiens bridgehead. In short, the 63d Infantry had found a soft spot in the line.

In his comments on the day's operations, the chronicler of this action (the regimental adjutant?) makes one puzzling statement. In praising the actions of the company of the 1st Battalion which had cleaned up Breilly, he states that these actions made possible the construction there of the *eight-ton* bridge. Up to this point the bridge at Breilly has been referred to, several times, as a *four-ton* structure. So far as this present account goes, the matter will remain anyone's guess. The Germans have both a four-ton and an eight-ton ponton-and-trestle equipage.

During the night (June 5th-6th) there was consider-



able French activity. About midnight enemy units began advancing eastward out of Fourdrinoy toward the right front of the 2d Battalion. It seems likely that the French units simply were trying to move from here to there, and that they had no intention of making an attack. In any event, their advance was stopped, and they withdrew beyond Fourdrinoy, when the front-line companies opened fire. Meanwhile, the French artillery fire was more of a problem. It fell at intervals all through the night, and on areas scattered all over the regimental sector. Occasionally an enemy airplane would drop a few bombs in the vicinity of the Breilly bridge. Of course, none of these enemy activities interfered with anything more than, possibly, the sleep of the 63d Infantry.

### III

The mission of the division on June 6th was to complete the breakthrough. The division order provided that the attack begin at 6:00 A.M. Apparently, this order was received at regimental headquarters (now located at the crossroads southwest of Hill 99) sometime after midnight. At 3:45 A.M. the regimental order was on its way through channels. According to that order, the attack was to proceed very much as on the preceding day. Formation, boundaries, and attachment of howitzer and antitank platoons were the same. The regiment was to be supported by one battalion of light artillery. The initial objective of the 2d Battalion was the high ground north of Saisseval; that of the 3d Battalion the village of Saisseval. The day's object for the regiment was the high ground northwest of Revelles. The regimental CP was to remain at the crossroads until 4:30 A.M., at which time it was to move to a point near the boundary between the 2d and 3d Battalions in a small patch of woods 700 yards northwest of Romont Fe.

As the jumpoff hour approached, enemy activity increased, heavy artillery fire falling over the creek valley 600 yards north of Romont Fe. Just to the west of that valley the 1st Battalion had dug itself in during the night. The fire of light artillery, coming from the vicinity of Saissemont, fell close to the regimental CP, while machine-gun fire from Fourdrinoy passed over the CP. The noise of a fire-fight could be heard coming from the direction of the right flank of the regiment on the left which had pushed forward to a small woods east of Romont Fe. The straw stacks near Romont were burning. Machine-gun fire could be spotted coming from the vicinity of Fourdrinoy, from the vicinity of Saissemont, and from an area about 1,600 yards northeast of Saissemont. It seemed clear that June 6th was to be a day of hard fighting.

About 6:00 A.M. the attack began. It was not a case of a big surprise jumpoff; rather the case of many small units moving more or less individually forward. Very soon arose that familiar and annoying fire from adjacent sectors. The 2d Battalion reported that Fourdrinoy, in the sector of the neighboring regiment, was strongly held by the French. The battalion commander proposed to turn aside and mop up Fourdrinoy before proceeding to his initial objective. Meanwhile, the 3d Battalion reported that it was held up by machine-gun fire, coming from Saissemont to the front, and from the adjacent sector to the left. The Battalion commander asked for artillery fire on Saissemont.

After receiving these reports, the regimental commander called for artillery fire on Saisseval, on the woods and high ground 1,200 and 1,800 yards east of Saissemont, and on enemy batteries which were located southeast of Saissemont and in the draw between Bovelles and Seux. He did not ask for fire on Saissemont itself for fear of endangering his own infantry. Then

he surveyed the situations on his flanks and found that the regiment on the right had finally gotten through the Bois de Neuilly and was occupying Fourdrinoy and that the regiment on the left had been stopped completely by an entrenched line running through St. Christ Ferme. Meanwhile, as already described, his own assault battalions were unable to advance.

In this crisis, the regimental commander decided to employ his reserve, taking personal command of the situation and leading the 1st Battalion to the attack through the interval between 2d and 3d Battalions. He advised division of his action, recommended that the division reserve be pushed far forward and moved out.

As the colonel reached the 1st Battalion (9:00 A.M.?), he received a report informing him that the 2d Battalion had reached Fourdrinoy. It was assumed that the right flank of that battalion now was assisting the neighboring regiment in mopping up the town. A few minutes later (9:20 A.M.), the division commander himself came up. After being advised as to the situation the division commander ordered one battalion of the division's reserve regiment attached to the 63d Infantry. That battalion already had been ordered to move into the sector of the 63d Infantry.

In following the interesting but somewhat complex actions of the regimental commander and his staff it is more than ever necessary to note the difference between *Saissemont* and *Saisseval*. As the colonel led his reserve battalion forward he wondered a little at the absence of any signs of the assault battalions (except for an occasional casualty making his way to the rear). One obvious explanation was that the battalions had broken the enemy resistance and were now far to the front; but the colonel had an idea that the resistance wasn't to be broken so easily. His suspicions were bolstered when, as the 1st Battalion began to pass to the northwest of

Saissemont, it was taken under heavy machine-gun fire from that town.

Saissemont actually was in the neighboring regiment's sector; but our colonel saw that fire from the town effectively controlled movement in his own sector. Therefore, disregarding fine points of authority, he decided to reduce Saissemont then and there. He gave the necessary orders to the 1st Battalion, saw that battalion begin a double envelopment, and circled off to the west personally to find what had happened to what were rapidly coming to be thought of as the Lost Battalions. He circled to the west only in order to avoid the machine-gun fire coming from Saissemont. As soon as he was out of range, he swung to the south, toward the regiment's objective (Revelles). If the optimistic view that the missing battalions had simply advanced faster than expected was true, the battalions should be somewhere south of Saisseval. The time was about noon.

As the colonel and his staff approached Saisseval, they came upon one company from the 2d Battalion, and one platoon from a machine-gun company of the 3d Battalion. These two units were hugging the ground, and their story was that they could not move because of machine-gun fire from Saissemont. The colonel must have considered this explanation sour indeed, for he immediately constituted the units as regimental reserve and ordered them to follow him. The advance continued until within a few hundred yards of Saisseval where the party was fired on by a few French machine guns operating from the edge of the woods. The guns of the recently-acquired platoon thereupon were set up and those of the enemy soon were silenced.

It was now about 1:00 P.M., and still there was no sign of the Lost Battalions. Hopes raised momentarily when a staff officer, searching the landscape with his field glasses, discovered something which he took to be in-

fantry scaling the slopes of a hill west of Seux, two miles away. The infantry appeared to be heading south. Everyone immediately reached for a field glass, and then a discussion ensued as to whether the soldiers seen through the glasses were German or French. Most of the officers believed the lost had been found but apparently the colonel believed otherwise.

As it turned out, the colonel was right. The manner in which the discovery was made is not clear, but ultimately it was discovered that the 2d and 3d Battalions had gotten all mixed up. The 3d Battalion had made a north instead of a south turn, had crossed entirely across the front of the 2d Battalion, and now was up near Hill 125, joining hands with the neighboring regiment. The 2d Battalion had halted in some confusion in an area about 1,000 yards northwest of Saisseval. The chronicler of the action ascribes the mix-up to "enemy machine-gun fire from Saissemont and Saisseval, and perhaps also to false orientation." It may be suspected that the colonel had a simpler and rougher explanation.

At 1:10 P.M., just after the Lost Battalions had been located, there arrived a combat order from the division. The enemy was withdrawing; the attack was to be pressed energetically; the 63d Infantry, with one battalion from division reserve attached, was to advance at once in its assigned sector, and was to occupy the town of Revelles and the high ground northwest of Revelles.

By 1:30 P.M., the regimental CP had been established in a small woods just west of Saisseval. The regimental reserve, which still consisted of the rifle company and the machine-gun platoon, was assembled nearby. Shortly after 1:30 P.M. officer-messengers from the 2d and 3d Battalions arrived, and confirmed the present whereabouts of those units. It was now clear that the regimental CP and the small reserve were at the moment out

in front of the entire regiment. The colonel immediately ordered the 2d and 3d Battalions forward, prepared to resume the attack. At the same time, he considered that either or both of the 1st Battalion and the attached reserve battalion might be available for the attack before the arrival of the 2d and 3d Battalions. His plan was to use whichever two battalions became first available.

As things developed, the 1st Battalion and the attached battalion arrived first near Saisseval, and hence they were designated as the assault battalions. They were to attack abreast, 1st Battalion on the left. For objective the 1st Battalion had the town of Revelles while the attached battalion was to try for the town of Fluy and the high ground northwest of Revelles. The 3d Battalion was to follow the right assault battalion; the 2d Battalion, the left assault battalion.

The attack got under way at 6:25 P.M. At first, progress was rapid, the chief difficulty being occasioned by the numerous hedges which crossed the fields. Soon both assault battalions had solved the hedge problem by moving along and close to the Saisseval-Seux road. In due course, and without incident, Seux was occupied, the regimental commander being one of the first to enter the village. Soon thereafter he was handed a message by one of the soldiers from the regiment's cavalry reconnaissance detachment. The message stated that Fluy, one mile to the south, was strongly held by French units.

It soon became evident that taking Fluy would indeed be difficult. Ultimately, both assault battalions were employed on the operation. The attached battalion attacked from the front, while the 1st Battalion came up from the east. By now the 63d Infantry had outstripped its artillery, and so, for once, the attackers were without the advantage of adequate artillery support. It was after

dark before the French finally were forced from the town.

Later, the inevitable captured order turned up, which, in this case indicated Fluy to have been a key point in a prepared position along which the French had intended to make a major stand. The chronicler of the 63d Infantry therefore allows himself the conclusion that his regiment, by capturing Fluy before it could be organized properly, insured the success of the breakthrough along the lower Somme.

## CHAPTER V

### TANKS: ARRAS TO DUNKIRK

*This account of the British counterattack south of Arras on May 21st is based on data from an authoritative source. The action had, and could have had, no great effect on the general issue of events in Flanders, but it was heroically conceived and executed, and demonstrated once again the fact that man for man and tank for tank the British were at least the equals of their enemies.*

BY MAY 19th, the fortunes of the Allies had reached the desperate stage. German panzer units, encountering little resistance, already had cut BEF communications and were approaching Abbeville on the Channel (map 7). Behind the panzer divisions were columns of motorized and foot troops reaching all the way back to the Meuse—or, in fact, to the Rhine. Allied hopes for a restoration of the situation had been reduced to the possibility of a powerful attack northward by the main French forces then assembling south of the Somme. By May 19th, the British were proceeding on the assumption

tion (lack of liaison with the French prevented its being much more than an assumption) that preparations for the French counterattack were going ahead. The situation in general was one of superfluidity.

The days following the German breakthrough at Sedan (on May 15th) had been difficult ones for the BEF. Without having been defeated or even seriously engaged on its own front, the BEF had been forced by events on its flanks to fall back successively from lines



Map 7: Cross-hatching indicates German advance by May 21, 1940

on the Dyle, the Dendre, the Escaut. Meanwhile, at the far right (western) end of the broken Allied line north of the Somme, a small, semi-isolated British detachment, consisting of an infantry battalion and a few miscellaneous service units operating as infantry, was still holding Arras, which until very recently had been the site of GHQ. (Now, the one consolation afforded the tiny garrison was the availability of luxurious supplies—preserved chicken and the like—taken from abandoned

depots.) Between the garrison at Arras and the main forces of the BEF, French units were holding the line more or less discontinuously. Immediately to the east of Arras was the French 1st Light Mechanized Division, with sixty or seventy Somua (20-ton) tanks.

On that day—May 19th—anything that gave promise of contributing even remotely to the success of the hoped-for French attack up from the south was receiving the most serious consideration. Thus the possibilities of a British counterattack south of Arras came into question, and the project was adopted.

As outlined by GHQ, the counterattack was to be a coördinated tank-infantry-artillery action, involving two divisions (the 5th and the 50th) and the BEF's only "Army Tank Brigade." It is evident that as conceived the attack was to be a strong one; but, as things actually developed, it came to be made by a force consisting chiefly of two battalions, each of tanks and infantry.

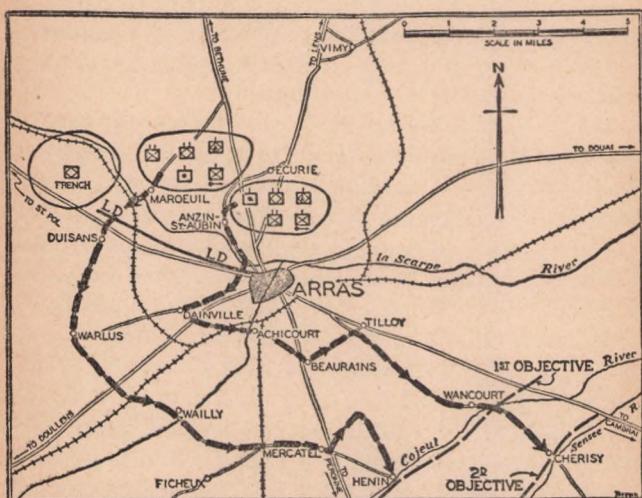
Orders to assemble for the attack reached the participating units during the morning of the 20th. The assembly point was Vimy (map 8), five miles north of Arras. At that time, all operations around Arras were placed under the command of General Franklyn, commander of the 5th Division, and the senior general present. The counterattack itself was placed under the command of General Martel, commander of the 50th Division (who later became commander of all armored forces in England). The Army Tank Brigade was under the command of General Pratt (later in America with the British Military Commission).

The 20th was a day of uncertainties—uncertainty as to the situation near Arras, and uncertainty as to just what units actually would get to Vimy. So far as this account is concerned, the second uncertainty may be disposed of by the following table, which lists the approxi-

mate time of arrival of the various units that got to the scene of action:

*Noon, May 20th:* certain elements of the 50th Division, chief among them being one of its three infantry regiments;<sup>1</sup>

*Afternoon, May 20:* the 5th Division, less practically



Map 8: The British counterattack

everything except division headquarters and one infantry regiment;

*Evening May 20th to early morning May 21st:* one additional infantry regiment of the 50th Division and the Army Tank Brigade.

Thus, by early morning of the 21st, there had arrived

<sup>1</sup> The British infantry *brigade* corresponds directly to the American infantry *regiment*. Throughout this account, the American term is used.

at Vimy two infantry regiments, the tank brigade, and various other divisional units. However, the exigencies of the local situation were such as to use up the units almost as fast as they arrived. For example, during the afternoon of the 20th it became evident that Arras itself was in imminent danger of capture. And so, from the newly-arrived divisions, elements as follows were detached and sent to the relief of the town: one battalion of infantry, one AT company, one company of engineers (this being the one and only mention of engineers in this account). Later in the afternoon, it was decided to replace the French units to the east of Arras with British ones, and this used up two more regiments (one of them less the battalion which had been sent into Arras).

By 6:00 A.M. on May 21st, General Franklyn saw that Arras and the line to the east were fairly secure, but that for the counter-attack itself there remained only one infantry regiment, the tank brigade, and some artillery and other divisional units. The relief of the French east of Arras had made available the sixty or seventy Somua tanks, and these were counted upon to guard the open (right) flank of the attacking force.

The British Army Tank Brigade was really an emasculated regiment, consisting chiefly of two battalions. Tanks were allotted as follows:

	<i>Mark I</i>	<i>Mark II</i>	<i>Light</i>
1st battalion .....	23	10	5
2nd battalion .....	35	6	7

The Mark I tank weighed ten tons, and was armed with machine guns only. The Mark II tank weighed twenty-five tons and was armed both with machine guns and with a "2-pounder" AT gun. Both tanks were heavily armored, and both were very slow. The tank brigade was equipped and trained for employment in

close support of attacking infantry, in the carefully staged and methodical type of battle. It was not intended that the tanks would ever have to cover long distances (say, over 100 miles) under their own power. Now, the brigade was to be employed on a mission more applicable to mechanized cavalry, and this after the tanks had just completed five days of travel in which they had covered about 120 miles (all the way from Brussels) under their own power. Incidentally, this was to be the first real engagement for the tanks.

General Franklyn began issuing his orders about 6:00 A.M., May 21st. His general plan may be traced on map 8. The elements of the plan follow:

*Mission:* to clear the area south of Arras of enemy troops.

*Troops:* one infantry regiment, one tank brigade, two batteries of field artillery.

*Objectives:* first, Cojeul River; second, Sensee River.

*Line of departure:* Arras-St. Pol Road.

*Time for crossing LD:* 2:00 P.M., May 21st.

General Martel finished receiving these orders about 7:00 A.M. He noted that his mission involved clearing an area approximately four miles wide by ten miles deep—a task that obviously could be accomplished only if little or no resistance were encountered. He noted further that within the next seven hours (to 2:00 P.M.) he would have to issue his orders, get his units moved up to the line of departure, and effect the necessary preliminary reconnaissance. He suggested that the time of crossing the line of departure be put back an hour, but the suggestion found no favor. And then he formed his plan and issued his orders.

General Martel planned to organize his command into two nearly-identical combat teams, and to move through the attack sector over two roughly parallel

routes. The routes in question are indicated on the map. The component parts of each of the combat teams were as follows:

- 1 battalion of infantry
- 1 battalion of tanks
- 1 AT company
- 1 MG company
- 1 battery of light artillery

The reserve consisted chiefly of the other battalion of infantry, and included no tanks. The combat teams were to be commanded by the commanders of the respective infantry battalions.

When the commanders of the combat teams came to specify the details of formation for their columns, they came face to face with the fact that they knew very little about what they were getting into. Despite the fact that French mechanized units were supposed to have been operating over the areas in question, details on the enemy situation were almost completely lacking. There seemed to be two reasonable possibilities: either the enemy would be found in hastily organized positions; or he would be depending on his tanks to repel raids and attacks. In the first case, the British would want their infantry ahead; in the second, their tanks. Obviously, a compromise was in order and it came in the form of a decision to adopt a formation with tanks going ahead, infantry close behind. This arrangement presupposed close liaison between tanks and infantry (but the actual attainment of this liaison turned out to be something else again). The different units were delayed in reaching their assembly areas (Maroeuil for the right column, Anzin St. Aubin for the left column). But unfortunately, the infantry and other marching elements were delayed longer than the tanks. As a result, the tanks were ready to move over the line of departure before

the other elements had finished assembling. After some discussion it was decided to send the tanks ahead, the infantry and other elements to follow as soon as possible. So the tanks moved over the line of departure about 2:30 P.M., the infantry perhaps fifteen minutes later.

The general progress of the raid (for that is what it now had turned out to be) can best be followed by reference to the map and to the table. The rest of this account will consist chiefly of elaboration of entries in the table on page 88.

The British had believed that the going would surely be easy until the advance reached, say, the Arras-Doullens road, inasmuch as the French had been over that area and had reported no enemy activity. However, the tanks had scarcely cleared the line of departure before the shooting started. The tanks of the left column came up on an enemy motorized column just west of Dainville, and proceeded to shoot it up. About the same time, the tanks of the right column were having to fight their way through Duisans.

The tanks of the left column encountered another crisis as they approached Achicourt, in the form of fire from AT guns emplaced north of that town. The six Mark II tanks of the column were ordered to swing to the north and silence the guns. Presumably, this was one of the times that was later cited as demonstrating the vulnerability of AT guns. It was then reported that ". . . a burst of well-directed .303 MG fire at the flash of the AT gun invariably silenced the gun, even at ranges up to 800 yards."

Up to this time (about 3:30 P.M.), the tanks of the left column had apparently been advancing with two companies abreast and the third one in support a few hundred yards to the rear. After leaving Achicourt, a gap opened between the leading companies, and the support company was pushed up into the line. Thereafter, the

advance continued to the Beaurains-Mercatel highway, where it was slowed down and finally brought to a stop by AT and artillery fire coming from the vicinity of Mercatel. It was now about 4:00 P.M. Three miles to the rear, the infantry of the column could be seen just approaching the Arras-Doullens road.

During this first hour and a half of the attack (to 4:00 P.M.), the right columns had succeeded in clearing Duisans of enemy troops. But near Warlus, two miles farther south, the column had encountered strong resistance including enemy tanks. The infantry was stopped completely; but the tanks, still not in close touch with the infantry, worked their way along toward Wailly and Ficheux. During the course of this phase of the action, the commander of the tank battalion was killed by machine gun fire (he must have been outside his tank at the time). Curiously enough, at about the same time over on the left near Mercatel, the tank of the battalion commander there was receiving a direct hit from a German field gun, and that commander was also killed.

Thus, at 4:00 P.M., in both columns, tanks and infantry remained widely separated. This state of affairs, contrary to the original plan, shows that control and communications had broken down. Owing to unfavorable atmospherics and inadequate netting, radios were functioning erratically. The only dependable means of communication was by messenger. Thus, when the adjutant of the tank battalion of the left column looked back from near the Beaurains-Mercatel road and saw the infantry approaching the Arras-Doullens road his move was to drive back in his own tank with word that the ridge immediately to the front of the Arras-Doullens road was free of enemy.

About this same time (still 4:00 P.M.), Generals Martel, Churchill, and Pratt, traveling by automobile, com-

PROGRESS OF THE ATTACK

HOUR (May 21) P.M.	RIGHT (WEST) COLUMN		LEFT (EAST) COLUMN	
	Infantry	Tanks	Infantry	Tanks
2:30		Jump-off over LD.		
2:45	Advance behind tanks.	Break up enemy motor columns in Duisans.	Advance behind tanks.	Jump-off over LD Break up enemy column at Dainville.
3:00	Enter Duisans.	Advance toward Warlus.		
3:30				6 Mark II tanks silence AT guns north of Achicourt.
4:00	Held up at Warlus, ordered to develop situation.	Advance toward Wailly-Ficheux Bn. CO killed.	Advance over Arras-Doullens road; ordered to organize Beaurains.	Held up on road between Beaurains and Mercatel. Bn. CO killed.
4:30	French tanks attack British AT guns near Warlus.	Ditto	Advance toward Beaurains.	Advance slowly toward Mercatel.
5:15	Uncertainty		Organize Beaurains.	Attack enemy motorized columns on road west of Mercatel.
5:45	Ordered to organize and hold Duisans.		Organize Beaurains.	Withdraw to rear of Beaurains.
6:15-6:35	Dive-bomber and tank attacks on Duisans—with withdrawal under cover of AT guns.	Tank Bn. ordered to stand fast	Dive-bomber attack on Beaurains — withdrawal toward Achicourt, Tank Bn. ordered to stand fast.	
7:30	Orders issued for Tank Bns. to rally at Ecurie.			
9:00 to early A.M. May 22	Withdrawal back of Scarpe River	Withdrawal toward Ecurie and assembly there.	Withdrawal back of Scarpe River.	Withdrawal toward Ecurie and assembly there.

pleted a reconnaissance which indicated that the left column was progressing faster than the right, but that neither was progressing fast enough to make attainment even of the first objective (Cojeul River) a probability. Accordingly General Martel (a) ordered the infantry of the left column to occupy Beaurains, and to organize it for defense against tanks; and, (b) impressed on the commander of the right column the importance of developing fully the situation at Warlus. At this point the general probably lamented with more vigor than usual the fact that the third battalion of tanks was still in England. He could have used some reserve tanks to great advantage just then.

The French tanks which, according to the general plan, were to take care of things on the right flank of the right column, enter our time-table account about 4:30 P.M. Their entry is by way of an incident in which they proved themselves to be more of a menace to their allies than to their enemies. At that hour, the infantry of the right column was attempting to press forward into Warlus. Off to their right, the British saw some tanks which, although unmarked, were assumed to be French, and which in fact were French. On their part, the tank crews saw, off toward Warlus, some AT guns which they assumed to be German, but which in fact were British. Showing surprising audacity, the French tanks advanced toward the guns and suddenly opened fire. One gun was knocked out immediately, and several men were killed; whereupon, the guns returned the fire. Several tanks were put out of action before the tank commander, now at close quarters, saw that the guns were British. Then he broke off the action, got out of his tank, and apologized for what our British chronicler chivalrously calls "his regrettable mistake."

After giving the orders mentioned in the second paragraph above, General Martel started back to Vimy,

there to report on the situation to General Franklyn. In due course the infantry of the left column arrived at Beaurains and began organizing it for defense. Meanwhile, the tanks of that column had moved slowly south toward Mercatel, and finally had assembled in a valley about 1,000 yards northwest of that town. Shortly after 5:00 P.M., the battalion adjutant, whom we last saw carrying a message back to the infantry, caught up with the battalion in the assembly area. Apparently the adjutant took command of the battalion, vice the commander who had been killed. In any event, it was the adjutant who "took all available tanks" and led an attack on the road running west from Mercatel. This road had been observed to be jammed with enemy vehicles, armored and otherwise, and with AT guns, some of them in position. It is reported that the British attack threw the enemy into confusion. But soon thereafter the tanks began to withdraw toward Beaurains. There the infantry already were hard at work. It must have been about 5:30 P.M.

Ever since the initial repulse at Warlus, the situation on the right had been confused. It appears that after the affair of mistaken identity as regards the French tanks, the British began to withdraw. By 5:30 P.M., most of the elements of the column probably were back near Duisans.

Meanwhile, back at Vimy, General Martel was describing the situation and was recommending an immediate withdrawal from the very exposed positions in which the combat teams now found themselves. He pointed out that the Germans had complete control of the air, had observed everything that had happened; and that they evidently had the means at hand, and certainly now had the incentive, to launch a violent counterattack. General Martel thought it the better part of valor to meet that attack in positions back of he

Scarpe. However, the big picture still demanded a demonstration to help that vague (and getting vaguer) French attack up from the Somme. So, General Martel was ordered to hold Beaurains, and to organize and hold Duisans. This order may have reached the columns by 5:45 P.M.

In fact, by 5:45 P.M. there was ample evidence that the German counterattack predicted by General Martel was developing. The British infantry in Beaurains was being subjected to heavy bombardment by a battery of artillery located near Mercatel. At the time, the tanks of the combat team had assembled under cover about 200 yards to the west of Beaurains, and the infantry commander formed the conclusion that it was the tanks that were drawing the artillery fire. He forthwith prevailed upon the tank commander to move farther to the rear. But whether or not the fire then lightened is not recorded.

At 6:15 P.M. the expected German counterattack came in all its expected violence. Both Beaurains and Duisans were subjected to heavy dive-bomber attacks. The attack on Beaurains involved about 100 planes, which operated over the town for twenty minutes. The British were forced to evacuate, which they did in the direction of Achicourt. The infantry took up a position about a half-mile east of that town, with the tanks assembled 200 yards to the rear. Meanwhile, at Duisans, the dive-bomber attack was followed up by tank attacks. The British withdrew to the north under cover of their AT guns.

By now it was past 8:00 P.M., and darkness was approaching. In the darkness there occurred near Achicourt another interesting case of mistaken tank identity. The British tank commander had come forward and was discussing the situation with the infantry commander. They had proceeded to a point about fifty yards

in front of the infantry positions when they heard the rumble of a tank approaching along the road from the east. Remarking that this must be a certain one of his own Mark II tanks which had broken down and which was to follow along later, the tank commander went forward to investigate and to direct his tank to the assembly area. He had some trouble getting the tank to stop, but finally accomplished that task through the process of waving a bundle of maps in front of the overflap. However, the face that forthwith appeared was anything but an English face, and, the questions which poured forth from the face were in nothing but the German language. The tank commander turned and dashed to the rear, running (at an unrecorded rate of speed) all the way back to his own tanks. By the time he had gotten his tanks ready for action, four other German tanks had come up, and all five of them now were lined up along the road, firing in the general direction of the British assembly area. The British tanks returned the fire and for eight or ten minutes there was a great deal of action. But, since it was dark and the positions of the targets could only be approximated, there was little damage. Presently, the firing subsided and the German tanks disappeared. The entire British force then withdrew into Achicourt.

As was usual (and as here was fortunate), the Germans suspended activities for the night. Having already been forced to evacuate Beaurains and Duisans, the British used the darkness to cover their further withdrawal back of the Scarpe.

Thus ended the raid south of Arras. The adventures of the Army Tank Brigade, however, were only beginning. In the days that followed, the brigade was in the thick of the operations by which the British prevented outflanking during the withdrawal that ended at Dunkirk.

II

That night (May 21st-22d) the tanks did assemble at Ecurie, but it was not nearly as easily done as said. The country was strange and difficult, with many roads and villages. Every road looked like every other road; and every village like every other village. The tanks rolled along in the pitch darkness, traveling singly and in small groups. The difficulties experienced in greater or less degree by all the tanks are illustrated by the case of one tank which missed a turn, became confused as to directions, and wandered off into—and through—the German lines.

The difficulties and misadventures attending the assembly at Ecurie are to be charged directly to a lack of maps. This statement leads to some interesting observations. In general, the BEF was operating with two types of maps: one to a scale of 1:250,000, and the other to a scale of 1:100,000. The maps were good and in the depots there were plenty of them. The problem was one of distribution—of keeping up with the far-flung movements of those days. The Army Tank Brigade, for instance, had traveled 120 miles in the five days preceding the action south of Arras. The Brigade was always just running off one sheet and onto another—and the difficulty was in having the other ready. During the Arras raid only about one tank crew in eight had a 1:100,000 map of the area over which it was operating. The shortage was especially critical when it came to finding the right road in the dark—as witness the trouble in getting to Ecurie.

By dawn of the 22d, what was left of the Tank Brigade had completed its assembly. There was considerable discussion as to yesterday's action. All reports agreed that relatively heavy losses had been inflicted on the enemy. The Mark II, with its thick armor and heavy

armament (2-pounder cannon) had proved its effectiveness against both German tanks and German anti-tank guns. The best estimates indicated that at least twenty enemy tanks had been put out of action. In addition, and surprisingly enough, many prisoners had been taken and turned over to the infantry. It was generally agreed that the gains could have been consolidated and that an important success might have resulted if the tanks could have been supported by additional tanks, mobile infantry and artillery. As always, the almost complete lack of air support had been a great handicap. Meanwhile, the Army Tank Brigade itself had suffered severely, both as regards personnel and tanks. Concerning the latter, a count early on May 22d showed the strengths of the Brigade's two battalions to be about as follows:

	<i>Mark I</i>	<i>Mark II</i>	<i>Light</i>
1st Battalion .....	13	7	—
2d Battalion .....	16	—	5

(It will be recalled that both the Mark I and the Mark II tanks were slow and heavily armored. The Mark I tank weighed about ten tons and was armed with machine guns only. The Mark II tank weighed about twenty-five tons and was armed both with machine guns and with the two-pounder cannon. Obviously, the Mark II was a formidable machine; the Mark I much less so.)

The Tank Brigade spent most of the 22d reorganizing, repairing the tanks (recovering many reported lost in action), and preparing for the days which lay ahead. Many aspects of the situation still were obscure. But there now was no doubt but that the right (west) flank of the Scarpe line was in the gravest danger. The British infantry still held Arras and the river line to Mont St. Eloi, but west of Mont St. Eloi there was nothing other

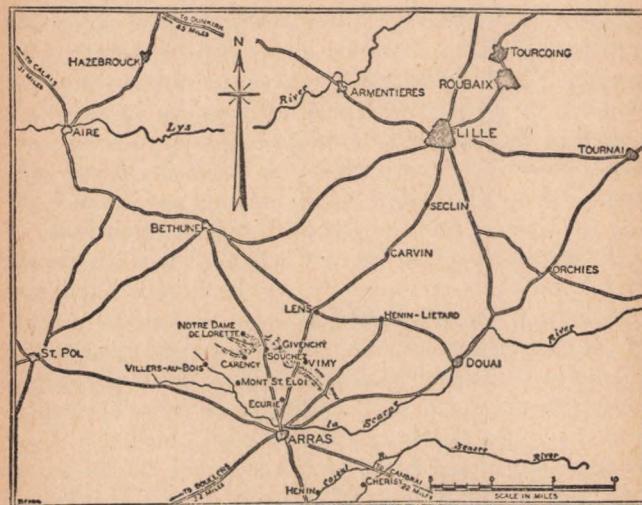
than the few French tanks whose help had been so conspicuous by its absence during the attack of the day before. Meanwhile, it was clear that the German panzer units were advancing into that area west of Arras, aiming at the isolation and annihilation of the British forces along the Scarpe (map 9).

During the morning and early afternoon of the 22d, the Tank Brigade moved to take up positions from which it could operate against any enemy thrusts at the exposed western flank. The moves were made over roads which were being bombed and machine-gunned constantly. The Brigade first moved to the vicinity of Vimy. The 1st Battalion, which alone had the means with which to deal with enemy tanks (the two-pounder cannon), then took up a position on Givenchy Ridge covering the Souchez Gap. It was now a question of waiting for further information as to enemy intentions.

By nightfall it had become apparent that an enemy attack on the extreme right of the Scarpe Line was developing. The Tank Brigade had the general mission of countering any such attack. Accordingly, elements of the Brigade were redisposed as follows: the 1st Battalion moved to a position on the high ground west of Souchez; and the 2d Battalion moved to a position on the Vimy Ridge, west of the Arras-Vimy road. The 2d Battalion had the specific mission of protecting against infantry attacks from the direction of Arras. Movements to the new positions took place during the night (May 22d-23d).

Early in the morning of the 23d, General Pratt, commanding the Tank Brigade, was ordered to coördinate French and British tank action throughout the entire area. The general went first to the French headquarters near Petit Vimy and then to Neuville and talked with the French commanders. One of the things receiving incidental attention was the matter of markings on

tanks. It will be recalled that the inability of the British and French to recognize each other's tanks had caused confusion and bloodshed during the attack south of Arras. It now developed that it wasn't simply a matter of the British not being able to identify the French tanks and vice versa. It had also become a matter of the French not being able to identify their own tanks. There was talk of a recent incident in which a French battery



Map 9: The action north of Arras

of 75's had fired perhaps a dozen rounds at 800 yards range on a tank which, just in time, turned out to be a French Somua.

The French general estimated that he had in the vicinity about thirty Somua (twenty-ton) tanks and about twenty-four Hotchkiss (twelve-ton) tanks. It was agreed that the Somuas were to be used as follows: ten to support the infantry regiment holding the extreme right

of the line (Arras-Mont St. Eloi sector); ten to guard Mont St. Eloi itself; and ten to stay in reserve near Souchez. The Hotchkiss units were also placed in reserve; but soon afterward they left the picture when it became necessary to send all of them off to the northwest on another mission.

General Pratt's coördinating efforts were completed during the morning (still May 23d), and soon, about 11:00 A.M., the expected German attack developed. It was a tank attack directed against Mont St. Eloi. In accordance with the plan, the 1st Battalion moved to meet the danger. After a hurried reconnaissance, two companies of the battalion took positions south of Carency on a ridge flanking what appeared to be the line of enemy advance. The other company was left near Souchez with the mission of protecting against attacks from the northwest. (This possibility of an attack from the northwest—that is, from the right rear—will be found figuring in all plans made during these critical hours. The British commanders were generally faced with the problem of meeting a definite menace to the front, while they guarded against a possible attack from "the northwest.")

The German attack rolled over Mont St. Eloi and continued on in the direction of Souchez. The line of the Scarpe was in full process of being outflanked. At this critical moment, the advancing tanks came within range of the two-pounders on the ridge to the north and the British opened fire. French Somua tanks, apparently those that had been held in reserve, joined in the fight. The German reaction to this heavy fire from the flank was to use smoke, but the measure was only partly effective. After a few of their tanks had been knocked out, the Germans withdrew. This must have been about

1:30 P.M.

After repulsing the German tank attack, the 1st Battalion returned to the position near Souchez. It was about 2:00 P.M. Despite the recent success, the situation was extremely critical—and extremely fluid. The danger to the front had by no means abated while that to the flank increased by the hour. During the rest of the day the 1st Battalion disposed and redispersed its meager forces (now totaling only about fifteen tanks) to meet one crisis after another. Meanwhile, the word had come down that this was to be a fight to the finish, with no withdrawal contemplated.

The first of the afternoon crises arose soon after the return to the Souchez area. The French reported a strong German movement "from the northwest." To meet this vague but highly dangerous threat, the battalion moved immediately to the Notre Dame de Lorette Ridge, about three miles to the northwest. Soon after arriving on that commanding ground, observers standing near the French War Memorial noted an enemy motorized column moving in close formation in the direction Villers au Bois—Mont St. Eloi. Presently, the column turned toward Souchez.

Thus, by perhaps 4:00 P.M., our battalion had on its hands two crises: the reported German movements to the northwest which had brought the battalion to the Lorette Ridge, and the actual German advance on Souchez. To meet both of these crises with fifteen or so tanks was a problem. The battalion commander solved it in this way: he left a section of perhaps three tanks on the Lorette Ridge on guard to the northwest; he sent two other sections to Souchez to collaborate with the French in a last-ditch defense of that point; and he took the last section himself and pushed through Souchez with a view to meeting and delaying the enemy advance. The battalion commander and his tiny force (perhaps

three tanks) came on the enemy near Carinel, southwest of Souchez. At that point there was a roadblock, afire and defended by German antitank guns. Farther south German infantry had detrucked and were advancing toward an assembly area at the foot of the Lorette Ridge. Seeing that Souchez was in no immediate danger (but that the Lorette Ridge was), the battalion commander sprayed the assembly area with machine-gun fire and returned to Souchez. He left one section to aid in the defense of Souchez, and with the others, drove on back to the Lorette Ridge. There the tanks directed their machine-gun fire against the assembling enemy infantry, but owing to their skillful use of cover, the effects were minor.

Darkness now was approaching. In accordance with Brigade orders, the 1st Battalion began to withdraw to the Givenchy Ridge east of Souchez. While this movement was in progress the Germans attacked with infantry and tanks. Two of the Mark II tanks were assigned to engage this attack and to cover the withdrawal. Here again, the two-pounder cannon of the Mark II tank proved its effectiveness against light and medium German tanks. In the fading light, several of the German tanks were knocked out, and the withdrawal was completed in good order. The tank duel continued until, in the dark, the targets could not be seen, and the guns could only be aimed at flashes.

During the early hours of darkness the situation must have looked all but hopeless to the survivors of the Brigade. As was their custom, the Germans had suspended operations for the night. It was clear, however, that the enemy attacks from the west had been growing stronger and it appeared that Lens, in rear of the Brigade, was in imminent danger of capture. As the Brigade surveyed the situation (still under orders to

hold to the last), it had at least the satisfaction of knowing that its operations around Souchez had prevented the overrunning of the right flank of the 5th and 50th Divisions, and so had saved those divisions from probable destruction.

However, about 11:00 P.M. (still May 23d), there came verbal orders reversing the order to hold present positions to the last. The Brigade was to withdraw, immediately and as best it could, to an area northwest of Carvin. The move was to be made over Henin-Lietard, since it was believed that the bridges in and near Lens had been demolished. This last piece of information was alarming, inasmuch as the service elements of the Brigade had been sent to the rear at dusk—routed over Lens. (As it developed, at least one route through Lens was open and the service elements got through safely.)

The withdrawal toward Carvin got under way at once. It was slow going. The roads were congested and the streets of the towns (especially Henin-Lietard) were blocked with debris resulting from the air attacks of the day. It was morning (May 24th) before the Brigade had assembled at the appointed place, four miles northwest of Carvin.

The rest of the 24th and part of the 25th were spent in repairing tanks and equipment, reorganizing the command, and resting. As to reorganization, a major job was indicated. The "Brigade" now could count only two or three Mark II tanks, about sixteen Mark I tanks, and a few light tanks. It was decided to organize the Mark I and Mark II tanks into one company and the light tanks into another. The two companies were formed into the  $\frac{1}{2}$  Battalion."

On the morning of the 25th the Brigade received orders to the effect that its tanks were to participate in a French-British counterattack to be delivered south-

ward from Orchies, toward Cambrai. On receipt of these orders, General Pratt proceeded to Corps Headquarters where it was decided that the tanks were to be divided between the two British divisions that were to participate in the action. The tanks were to form the spearhead of the attack and were to move initially to the vicinity of Orchies.

During the night (May 25th-26th) the  $\frac{1}{2}$  Battalion and the remainder of the Brigade went their respective ways. The former moved to its assembly area south of Orchies. The latter (including crews of many lost tanks) moved to a point west of Lille after having been under artillery fire during the afternoon. General Pratt then sent his executive officer to report to GHQ, while he himself went on to report to corps headquarters and to make a reconnaissance with the commander of the  $\frac{1}{2}$  Battalion.

Actually, the counterattack never materialized. The  $\frac{1}{2}$  Battalion held its exposed positions until ordered to withdraw to Seclin, southwest of Lille. Details on the ensuing operations of the battalion are unfortunately lacking. And so that heroic unit leaves our story there in Seclin. Meanwhile, the brigade executive had come back from GHQ with orders for all elements of the Brigade (less the  $\frac{1}{2}$  Battalion) to move out immediately to Dunkirk, there to embark for England. That was the first serious mention of the name which was to become so familiar with the following days.

The move to Dunkirk was made without incident during the afternoon of May 26th. The embarkation was effected the next day, after all vehicles had been damaged and abandoned. The Brigade (less its Battalion) suffered its last casualties as it sailed to Dover in the face of fire from German shore batteries and attacks from German aircraft.

## CHAPTER VI

### THE CAPTURE OF EBEN-EMAEL

EARLY on the morning of May 10, 1940, a German engineer battalion, motorized and strongly and peculiarly reinforced, rolled westward over the road Aachen-Maastricht. The battalion was traveling with the advance guard of a division—one of the many which, at 5:30 that morning, had crossed the three frontiers—Holland, Belgium, Luxembourg—as the great *Entscheidungskampf im Westen* (decisive battle in the West) got under way.

This particular division—the one advancing toward Maastricht—had immediately ahead of it a job which, of all those facing the invaders, must have rated tops, both in difficulty of execution, and in importance. For just across the ten-mile-wide, almost undefended, and almost undefendable Maastricht Appendix, lay the strong, fortified line of the Albert Canal. And the keystone of that line, most formidable of the works around Liège, “one of the strongest fortifications in Europe,” was Fort Eben-Emael. Fort Eben-Emael lay four miles south of Maastricht, within the sector of our advancing force.

What I have so far written is intended to illustrate a cause-and-effect relationship—the cause, a strong fort in the path of an advancing force; and the effect, an engineer battalion, peculiarly reinforced, well to the front of the advancing force. The mission of that engi-

neer battalion was to assault and reduce the fortifications at Eben-Emael—by German doctrine a typical engineer mission.

The German language, with its wealth of succinct military terms, has a word for the engineer: he is the *Bahnbrecher* (the breaker of the way) for the infantry. He is the *Bahnbrecher* whether the obstacle is a crater to be filled, a minefield to be destroyed, a stream to be bridged—or, a fortification to be reduced. As the *Bahnbrecher*, his work is connected not remotely but intimately with that of the infantry. And frequently, as in the case described in the opening paragraph, he operates as the very spearhead of the attack. So, not only is he a *Bahnbrecher*; he is also a *Kämpfer*—that is, a combat, and not a technical, soldier. Of this latter fact he is proud, and his feelings often are reflected in his actions and his remarks. For example, he calls himself a *Pionier* (not an *Ingenieur*). And among the things that an officer of *Pioniere* would classify as non-essential is the degree in engineering which attaches to his American counterpart. Every consideration of the German engineer battalion evidences this emphasis on *combat*—on combat engineering as involved in getting the infantry forward. The battalion is organized, equipped, trained, and indoctrinated to that end. Before looking further to the end itself, we may well examine the means through which the end is attained: organization, equipment, training. For this purpose I shall make specific reference to the engineer battalion of the regular infantry division, since that battalion is the model for all other general engineer units in the German Army.

#### ORGANIZATION OF THE ENGINEER BATTALION

The engineer battalion of the German infantry division is organized about as shown in figure 1. Except for the trains, the organization could be that of an

infantry unit (less the supporting-weapons units). Each engineer company has its three platoons, each platoon its three sections, and each section its two squads. As in German infantry units, one of the squads is built around, and takes its name from, a light machine gun. The section sergeant commands this light machine-gun squad and in addition to him the squad contains four enlisted men. As in infantry units, the other squad is called the rifle squad. The section corporal commands it, and it contains eight other enlisted men. Each man in the squad is armed with the caliber .30 carbine. Thus the strength of the section is about fourteen enlisted men. With this as a basis, and making some assumptions as to the strength of headquarters and trains, the company figures out at about five officers and 190 enlisted men; that of the battalion at about twenty officers and 750 enlisted men. The ratio—officers to enlisted men—is accordingly about one to thirty-seven, a proportion far smaller than the corresponding one for our engineer combat regiment, and considerably under that for our newly organized engineer combat battalion.

The infantry division of which this engineer battalion is a part is itself a triangular organization. It has three infantry regiments, two artillery regiments, a signal battalion, and the service and supply units. The aggregate strength of the division is perhaps 14,000. Thus the ratio—engineer strength to aggregate division strength—is about one to eighteen—a ratio somewhat larger than is the case for the American division.

#### TRANSPORTATION

Those who have followed the course of events in Europe have remarked the continuing presence of the horse throughout the German Army. For what it is worth in this respect, the engineer battalion is a case

in point. Two of the three companies in the battalion are called "foot" companies. In these, all platoon tools are carried in horse-drawn wagons. In company headquarters of the foot companies there is some motor transportation. The soldiers march afoot. The third company, all trains, and the battalion headquarters, are completely motorized.

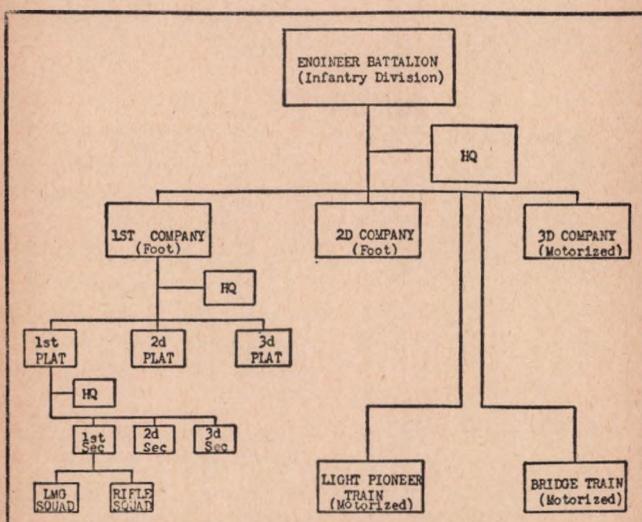


Figure 1: Basic organization of German engineer battalion

The wagons that carry two-thirds of the platoon tools (those in the two foot companies) are small—each drawn by two horses. The trucks that carry the other loads are large—five tons or so unloaded. Most of the trucks have three axles, with all six wheels power-driven. Reconnaissance cars are open and powerful, with four-wheel drive and four-wheel steering. Some of the prime movers in the bridge train are half-tracked. The pon-

ton and trestle equipage is carried on four-wheel trailers. All of these vehicles are *einheits* models, standard throughout the German Army. All have great power and great cross-country ability. Conspicuous by its absence in the German battalion is that hallmark of American engineer transportation—the dump truck.

Owing to the use of such large vehicles German motor columns are relatively short and heavy. That is an especial advantage where roads are many and good and where drivers are also few and poor.

#### ARMAMENT

The basic arms of the battalion are the light machine gun and the carbine. These fit into the organization in the manner already described. Except for two men in the light machine-gun squads, all enlisted men carry the carbine. Officers carry the pistol. Thus the armament is the same as that of the infantry company. The engineer battalion lacks, of course, the accompanying weapons found in the infantry regiment.

#### EQUIPMENT

The appearance of the German soldier, with his full helmet, cylindrical gasmask, and leather boots, has become well known through the photographs that have appeared during this and the other war. Everything is so much in order that one is reduced to commenting on the fact that the German engineer soldier does, whereas his American counterpart does not, carry an intrenching tool on his back.

Explosive is the fundamental engineer material, and the Germans give it attention commensurate with its importance. The standard German explosive is TNT, and it is found in considerable quantities in units from the platoon up. Not only is the explosive there in quantity; there also is an issue, size, and shape for almost

any purpose. The various forms in which explosives are issued are shown in figure 2. The .2-kilogram (.44-pound) block is the direct counterpart of the familiar American  $\frac{1}{2}$ -pound block, and is the form used for general demolitions. The cylindrical block is adapted to small bore-holes. The 1-kilogram slab is used for making bangalore torpedoes and for other distributed charges. The 3-kilogram block forms a powerful concentrated charge (*geballte Ladung*), peculiarly useful in

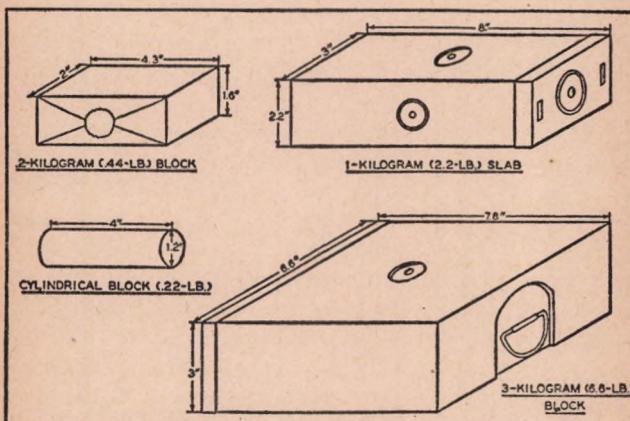


Figure 2: The standard German explosive is TNT. This diagram shows the various forms in which explosives are issued

certain operations I shall describe later. Along with these explosives go conventional fuses and detonators—and, in addition, a detonator that operates on a delay principle, like that of a hand grenade.

Closely allied to the explosives described above are the grenades and mines. These are carried in quantity by all units from the platoon up. The German tank-mine is large, calculated to do more than simply break the

tread of the enemy tank. The German hand grenade is the "potato-masher" of World War fame.

All German engineer units are equipped to lay quick obstacles (*Schnellsperren*) at a moment's notice. These obstacles are carried in all vehicles likely to see action. They include the mines mentioned in the paragraph above, steel-wire rolls similar to the American ones, and various types of mines improvised from issue explosives.

Also useful in the erection of obstacles, and in many other operations, are the power-saws carried in the platoons. These are powered by single-cylinder gasoline motors, and each can be carried and operated by two men.

German units are equipped with air-compressors on about the same scale as are American units: two per company. However, the German compressor is towed as a single-axle trailer, while the American one constitutes the built-in load for a 1½-ton truck. Incidentally, the American power-saw works off the air-compressor (in contrast to the German one, which, as has been mentioned, is gasoline-powered).

Engineer floating-bridge equipage the world over falls naturally into several classifications: assault and reconnaissance boats, footbridges, light bridges (say, to five tons), division-load bridges, heaviest-load bridges. It is a characteristic of the German Army that the various classes of bridge equipage are carried relatively far down in the organization. For example, the *combat company* has its own reconnaissance and assault boats, and the *battalion* carries some ponton and trestle equipage.

The American solution to the reconnaissance and assault problem is the light wooden, nesting "assault boat," the British solution is a "folding boat," and the German solution, a "pneumatic boat." The latter is de-

flated, rolled, and sacked for transport on the road, and is inflated (by a bellows pump) and stiffened with a wooden floor for use in the water. It is bulkheaded off into compartments so that a single puncture does not cause it to sink. It is carried in various sizes, the most common one being about nineteen feet long and seven feet wide, with a buoyancy of about two tons and a weight of about 350 pounds. The Germans have used the pneumatic boat very extensively during their recent operations. This fact is attested by the number of times in which pneumatic boats have appeared in photographs of these operations. One such recent news photograph shows the boats in use as piers for an improvised footbridge over the Meuse River. Other photographs have shown the boats in use as individual boat-ferries, assault boats, multiple-boat rafts, piers for light (say four-ton) ponton bridges.

The Germans have no footbridge as such. The manner in which footbridges are improvised has been noted above.

The German battalion carries a ponton and trestle equipage which assembles into a bridge carrying loads to about five tons. The bridge has no American counterpart. From the technical viewpoint, it is interesting chiefly in the manner in which balk and chess are combined into single "units of superstructure."

The standard German ponton and trestle equipage assembles variously into two types of bridge: the normal bridge, taking loads to about nine tons; and the reinforced bridge taking loads to at least twenty tons. The bridge has been used extensively in the operations over the numerous waterways of western Europe. Apparently it is capable of taking all loads in the panzer division. From the technical viewpoint, the bridge has many interesting features, such as the use of square-end half-pontons and the use of steel I-beams for balk

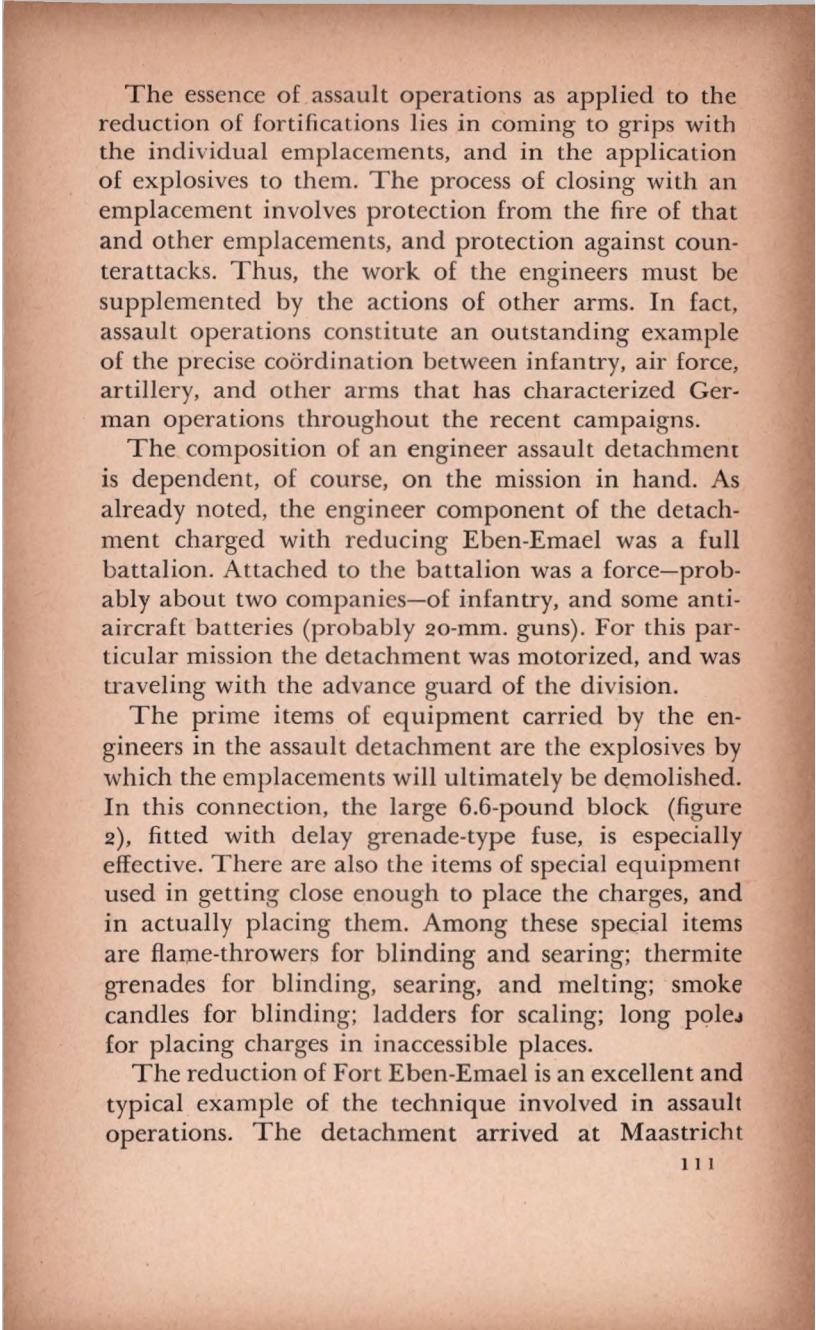
(both in contrast to American practice). The characteristics of the bridge are such that it must be assembled by the method of rafts—this resulting (usually) in rapid assembly, but requiring a high degree of skill in watermanship on the part of the construction crew. (The American bridge is best assembled by the safe and sure method of successive pontons.)

#### TRAINING

In peacetime the German engineer officer had two years in which to convert his conscripts into engineer soldiers. The time was utilized to the last minute. It was nothing unusual to see a company build and dismantle a ponton bridge, and repeat the operation *six times over*, in the course of an afternoon. It was nothing unusual to see a company take off in the morning, march ten miles without pause, go through an exercise, and march back home. There were many practical exercises, often with units from other arms participating. Invariably the exercises were as *kriegsmässig* (alike to war) as it was possible to make them. There was an air of seriousness, of determination, of reality about everything. And in the background, dominating the scene, was the idea that the engineer is not a technician but a *Kämpfer*.

#### THE RESULT: FLANDERS AND FRANCE

With this brief preview of the German engineer battalion, we may return to the battalion that was rolling along toward Maastricht early on the morning of May 10th with the mission of assaulting Fort Eben-Emael. Accomplishment of this mission involved the use of *Pionier Stosstrupp Taktik*—a German phrase which I shall translate here as “engineer assault tactics.” These tactics present the Bahnbrecher in his most fighting form.

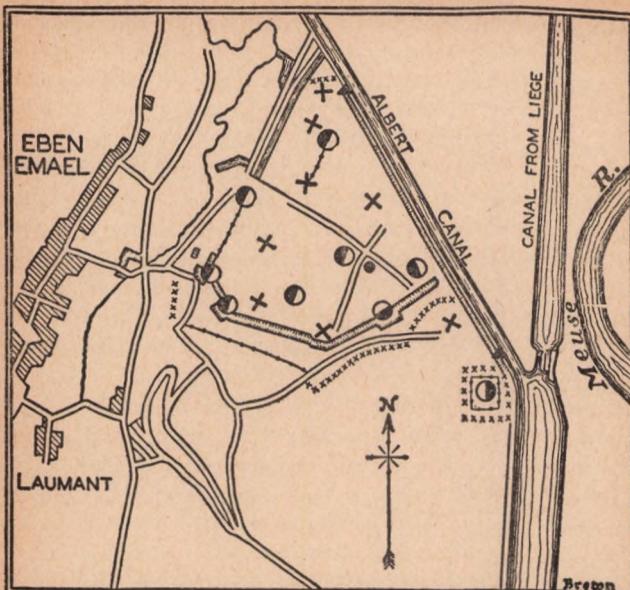


The essence of assault operations as applied to the reduction of fortifications lies in coming to grips with the individual emplacements, and in the application of explosives to them. The process of closing with an emplacement involves protection from the fire of that and other emplacements, and protection against counterattacks. Thus, the work of the engineers must be supplemented by the actions of other arms. In fact, assault operations constitute an outstanding example of the precise coördination between infantry, air force, artillery, and other arms that has characterized German operations throughout the recent campaigns.

The composition of an engineer assault detachment is dependent, of course, on the mission in hand. As already noted, the engineer component of the detachment charged with reducing Eben-Emael was a full battalion. Attached to the battalion was a force—probably about two companies—of infantry, and some anti-aircraft batteries (probably 20-mm. guns). For this particular mission the detachment was motorized, and was traveling with the advance guard of the division.

The prime items of equipment carried by the engineers in the assault detachment are the explosives by which the emplacements will ultimately be demolished. In this connection, the large 6.6-pound block (figure 2), fitted with delay grenade-type fuse, is especially effective. There are also the items of special equipment used in getting close enough to place the charges, and in actually placing them. Among these special items are flame-throwers for blinding and searing; thermite grenades for blinding, searing, and melting; smoke candles for blinding; ladders for scaling; long poles for placing charges in inaccessible places.

The reduction of Fort Eben-Emael is an excellent and typical example of the technique involved in assault operations. The detachment arrived at Maastricht



LEGEND

- (1) WORK WITH ARMORED TURRET(S), WITH  
E-ENTRANCE WORK.
- +
- WORK WITHOUT ARMORED TURRET
- xxxxx WIRE OBSTACLE.
- TANK OBSTACLE (DITCH).
- TANK OBSTACLE (DITCH FILLED WITH WATER).
- ▲ PILL BOX, SMALL EMPLACEMENT.
- WATER TOWER.
- STRONG FENCE.

0 500 1000 1500 2000  
SCALE IN MILES

Map 10: General layout of Fort Eben-Emael

within an hour of crossing the border, and after very little delay (and after incidents not pertinent to this account) succeeded in crossing both the Meuse River and the Albert Canal. The detachment then was on the Eben-Emael (west) side of the canal, and about four miles north of the fort.

Fort Eben-Emael was on a bluff almost two hundred feet above the surface of the canal. It overlooked both the canal and the river. It was occupied by a force of about 1,300 officers and men. The general layout of its most important works is shown in map 10. It was considered to be all but impregnable.

Beginning at 5:30 A.M., May 10th, the fort had been taken under heavy bombardment, especially by the German air force. As the bombardment proceeded, the assault detachment worked itself southward along the west bank of the canal. Its progress was slow; it was held up by fire from the fort and from numerous machine-gun nests over the countryside. By late afternoon, however, the detachment had reached the small stream running along the foot of the bluff just north of the fort. The stream was unfordable.

Meanwhile, late in the morning, the bombardment had ceased, and had been followed without delay by the landing of a parachute detachment within the fort. This detachment appears to have been composed of engineers, and was commanded by an engineer officer. It succeeded immediately in establishing contact by radio with the advancing assault detachment, and thereafter kept this detachment informed as to the situation within the fort. Details as to whatever other actions the parachute detachment may have taken are lacking.<sup>1</sup>

<sup>1</sup> Newspaper accounts of this operation hinted at the use by the parachutists of a mysterious gas, calculated to paralyze the enemy. No confirmation of the paralysis-gas rumor has been forthcoming.

Arrived at the unfordable stream, the assault detachment took cover, and awaited the coming of night. During the night, pneumatic boats (which had been used in crossing the Meuse at Maastricht, and had been left there) were brought forward and the detachment crossed the stream. It now scaled by ladder the steep slopes leading to the upper level of the fort. Details are lacking but it appears that the parachute detachment must have covered these operations. In any event, the coming of dawn saw assault and parachute detachments join forces. The assault began forthwith.

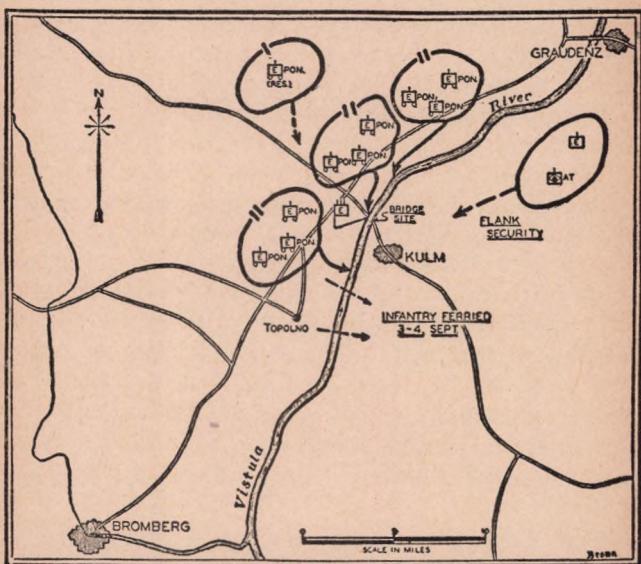
We can assume that the assault progressed in normal fashion. Certainly it had been rehearsed in detail. The AA guns went into battery, firing direct at the ports of individual works. The infantry prepared to repulse any sorties or counterattacks. The engineers crawled forward, concentrating on certain individual works. They carried their explosives, grenades, smoke candles, flame-throwers, poles, and other equipment. They took advantage of the blind areas formed by their own smoke, and by the many craters resulting from the bombardment (these craters being, incidentally, the chief benefit deriving from that bombardment). If they encountered wire, they cut through it with bangalore torpedoes. Finally, they reached the outer walls of the works themselves.

Here the scene is one of terrifying action. Flame-throwers play against ports, grenades burst, projectiles from the AA guns ricochet, and engineer soldiers hug the dead spaces, throwing and placing their charges. With their explosives they are attacking the sensitive parts of the work, the ports, the turrets, the hinges.

At Eben-Emael this sort of assault continued through the morning. One by one the works and emplacements were rendered untenable. At 12:50 P.M. the Belgian commander raised the white flag and surrendered to

the engineer lieutenant colonel commanding the assault detachment. The Battle of Flanders was barely thirty hours old, and the German engineers had already done much to destroy the myth of the invulnerability of the great post-World War frontier fortifications.

Actually, and as in other phases of the blitzkrieg, there is nothing fundamentally new about assault



Map 11: Crossing of the Vistula September 4-5, 1939

tactics as practiced at Eben-Emael. Even to the flame-throwers and the supporting weapons, the assault detachment of 1940 is the *Sturmbataillon* of 1915. The single new wrinkle appears to be the parachutists—and it appears that they figured only in the assault of Eben-Emael—and not decisively there. Assuming that the defenders were imbued with the will to resist, the secret

of the success of the assault detachment lay in thoroughly trained personnel, adequate equipment, careful reconnaissance, thorough planning and rehearsal—and, finally, in the precise coördination of the participating arms.

The story of Eben-Emael was repeated, certainly several and probably many times, as the German divisions broke through one after another of the fortified lines in the Low Countries and northern France. However, although these assaults on fortified areas may have been the most spectacular of the activities of the Bahnbrecher, they were not his only ones.

#### RIVER CROSSINGS

For example, there were many waterways to cross—the Meuse, the Albert Canal, the Scheldt, the Lys, the Somme, and others. Indeed, on its approach march, the assault detachment whose operations at Eben-Emael have been described found the Meuse bridges at Maastricht destroyed. The crossing was forced in the face of the enemy, under the cover of fire from the antiaircraft batteries, and possibly with the help of parachutists landed on the far bank. Later in the morning other engineers constructed ponton bridges across the river.

Throughout the advance through the Low Countries and France bridges appear to have been thrown quickly, almost precipitously, across the waterways. Evidently the tempo of the classic river crossing was stepped up greatly, and perhaps some of the classic requirements were brushed aside. The part which parachute or air units may have played in establishing bridgeheads is not yet discernible. However, it is clear that most of these crossings were made in the face of an enemy whose front was constantly being penetrated,

and whose flanks constantly faced envelopment. Probably the river lines were not defended in the classic manner.

An account of a crossing of the Vistula River during the Polish campaign<sup>2</sup> reveals what may have been typical "blitz-crossing" practice. The crossing was made during the advance of the Fourth Army eastward across the Corridor. The advance had begun at dawn, September 1st, and by the night of September 3d had reached the Vistula in the area Graudenz-Kulm-Bromberg. During the night of September 3d, the ferrying of infantry units with supporting weapons had been begun south of Kulm. The Poles were resisting, but apparently not in force. At about this time (night of September 3d), corps orders were given for the construction of a division-load ponton bridge in the vicinity of Kulm.

The accompanying map 11 has been designed to show the essential elements of the crossing. The operation was under the command of an "engineer regimental staff," to which had been assigned, by the corps, the three motorized battalions and the nine bridge-trains involved. Apparently this "regimental staff" corresponds somewhat to our corps engineer headquarters.

Reconnaissance during the night of September 4th-5th had shown the existing ferry site at Kulm to be the most advantageous site for the bridge. The river there was about 1,000 feet wide, with a maximum current of about three feet per second. Construction was to be by the method of rafts, the rafts to be built at three different points, as indicated on the map. The assembly of the bridge proceeded in the face of only desultory resistance. There was apparently no enemy artillery fire and no enemy air activity. Under these conditions

<sup>2</sup> *Vierteljahresheft für Pioniere*, No. 4, 1939.

the bridge was completed in about ten hours—a fair, but by no means remarkable, performance.

Rumors of bridges tailor-made for specific locations and ready for insertion in the slot should probably be discounted. The very fine ponton and trestle equipage of the Germans, complemented by the thoroughly trained engineer units, is tailor-made for any stream. However, it is true that, due partly to the restricted authority given the Allied bridge guards, many bridges were captured intact. Meanwhile, conjecture as to the methods used in getting super-heavy tanks across the streams should await confirmation of the reports that such tanks were actually used.

#### BARRIER OPERATIONS

So far, there have been received no reports of any large-scale use of barrier tactics on the part of German engineers during the earlier campaigns. From the German viewpoint, the campaigns emphasize the overcoming of, rather than the erection of, obstacles. However, it is well not to let this obscure the fact that the German engineers were prepared to supplement their *Bahnbrecher* work with equally efficient *Bahnstörer* (barrier) work, had the occasion demanded.

German barrier tactics further illustrate the intimate coöordination between engineers and other arms. The so-called *Sperrverbände* are detachments made up of engineers, infantry, machine-gun units, antitank units, and perhaps antiaircraft units. Such a detachment is prepared to take over an area, convert it into a *Sperrgebiet* (obstacle zone), and so deny it to the enemy. It is a case of coöordinating the obstacle-power of engineers with the fire-power of the other elements of the detachment.

As an indication of German thought on the possibilities of barrier tactics, I may cite the German belief

that a gap like the one that opened between their First and Second Armies at the Marne in 1914 could be closed for an adequate time by Sperrverbände. During the invasion of France it seems apparent that as the Germans drove the great wedge from Sedan to Abbeville, the French forces south of the Somme everywhere were on the defensive. Had these forces been able to attack, it is probable that we would have had accounts of German barrier operations designed to resist the attacks. Perhaps, even as things were, it will be learned that the Germans, taking as always no more chances than necessary, protected their lengthening flanks by barrier zones.

#### MOPPING-UP OPERATIONS

In Poland, considerable resistance was encountered in the towns and villages. Many of these were organized for defense, with the streets barricaded. An important mission which frequently fell to engineer assault detachments was the capture and clearing of such barricades, and the mopping-up of resistance in the buildings. The technique here involved was similar to that described for the reduction of fortifications. Houses were attacked and reduced chiefly by means of explosives. Barricades usually were outflanked by parties which had advanced from house to house.

#### ROAD MAINTENANCE

The German emphasis on the combat aspects of engineer operations has sometimes been discounted by skeptics who have said in effect, "That's all very well for peacetime training, but when the action gets under way the most important engineer job will be maintenance of roads." The German idea has been that road maintenance is an operation undeniably important; but that it is one which requires little technical skill

and which, therefore, should not consume the time of trained combat engineers. Events in Poland and in western Europe can be cited to illustrate the German thought on this matter.

It is necessary here to make reference to the German *Arbeitsdienst* (Labor Service). This is an organization into which all German youth are conscripted at about the age of eighteen. They serve in the organization for six months, and then begin their compulsory army service. The Labor Service is semi-military in character, but is often compared to the American CCC. (Incidentally, the establishment of the CCC in April, 1933, antedated the establishment of the Arbeitsdienst by two years.) Since its establishment, more than two and one-half million youths have passed through the Arbeitsdienst and into the Army (the physical training received in the Arbeitsdienst explains in some measure the remarkable marching and other physical performances of the German troops). The Arbeitsdienst has continued to function throughout the war; this despite the fact that sixty per cent of its officers have been called into the Army.

During the Polish campaign more than 500 companies of the Arbeitsdienst (each perhaps 200 strong) were in the field. They were employed primarily on the maintenance of roads. Meanwhile, special units of skilled and semi-skilled labor were at work on bridges. It appears that all this work was done under the control of engineer staffs; but regular engineer-troop units were not much involved.

At the time of the Polish campaign, additional units of the Arbeitsdienst (perhaps 300 companies) were working on the construction of the Westwall. There they worked in conjunction with the *Organization Todt*, which takes its name from the civilian engineer who built the great motor highways of Germany and

later played an important part in the emergency task of constructing the Westwall.<sup>3</sup> The Organization Todt consisted of skilled, semi-skilled, and unskilled labor, more or less conscripted from all parts of Germany.

It appears that both the Arbeitsdienst and the Organization Todt were employed on the maintenance of bridges and roads during the operations on the Western Front. Commenting on what it calls the remarkable success of German supply operations during the campaign in Flanders, the semi-official army publication, *Militär-Wochenblatt*, states: "Elements of the German Arbeitsdienst were pushed forward to the very front. The Organization Todt everywhere worked unflinchingly on roads and bridges." Again it is clear that the regular engineer units were able to devote themselves chiefly to missions strictly combative.

There is a great tendency to conclude, not in engineer matters alone but in others as well, that the German Army has attained the ideal and that all we need do is go down the line, emulating from stem to stern. Perhaps we could do worse than that—but certainly we can do better. Any emulation should be on a strictly selective basis.

There always is to be kept in mind the fact that the German Army was designed for a specific enemy in a specific theater of operations. This thought enters the picture when we are tempted to endorse unreservedly the German doctrine of a *pioneer*, as against an *engineer*, corps. We must ourselves keep in mind the possibility of operating under widely varying conditions—conditions where water supply might be more important than assault tactics, where labor battalions

<sup>3</sup> The Westwall was designed, and its construction was supervised, by engineers of the Fortifications Branch of the *Pionierkorps*. The engineers of the Fortifications Branch are specialists whose operations are not pertinent to this article.

from the interior might not be available on call, or where our own air superiority might not be such as to make of camouflage a superfluous art. As somebody remarked on that last sodden day of the Third Army maneuvers in Louisiana, "I'd like to see a panzer division blitzkrieging over *this* terrain."

There is one conclusion, however, which is uncontested (and obvious). It has to do with the intimate coördination which must exist between members of the combat team. The German blitz campaigns have demonstrated this fact more forcibly, perhaps, than it ever before has been demonstrated. And as a corollary fact, the campaigns have demonstrated that the engineers are now an élite member of the team.

## CHAPTER VII WAR FOR THE PASSES

THE SPECTACULAR battles that occurred in Crete, and the tremendous events occurring later in Russia, have tended to divert our attention from one of the most interesting and significant phases of all the war—the campaign in the Balkans, the war for the passes. That campaign is interesting and significant because we see in it modern doctrines, modern arms, and modern techniques applied under unusual conditions. We see them applied in mountainous terrain, where roads are few and defiles many, and where the country between the roads is impassable to cars and trucks and tanks.

It may be said that, in the Balkans, blitzkrieg came to the mountains. In this lies the peculiar interest which the campaign holds for us—an interest accentu-

ated by the fact that we have mountain units in our own Army.

Any discussion of a campaign, written as soon as this one after the events themselves occurred, must contain some hedges. This is to acknowledge that, in the chapter that follows, there are gaps and uncertainties we cannot clear up with the data now available. But by putting material together from many sources—Swiss, British, Italian, German—we are able to reconstruct accurately the broad outlines of the campaign, and to include many—under the circumstances, surprisingly many—details. Now—on to the mountains and the story . . . beginning with the general picture.

German high strategy called for a settling of the Balkan situation in the spring of 1941—a fact shown by the successive occupation, late in 1940 and early in 1941, of Hungary, Rumania, Bulgaria. The benefits to be derived from the prospective action were, for Germany, at least twofold: first, the elimination of the last enemy bridgehead on the continent; and second, the acquiring of air and submarine bases deep in the eastern Mediterranean.

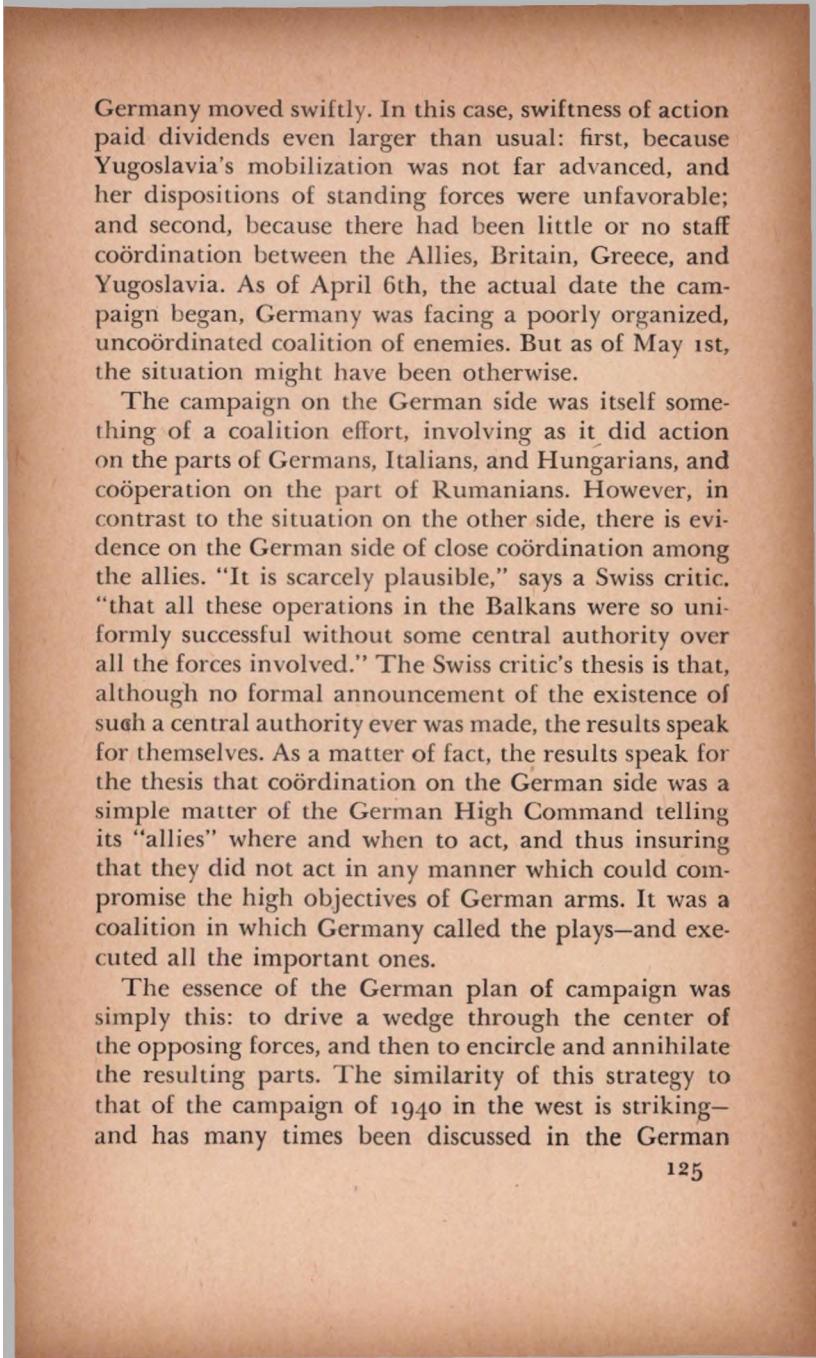
Yugoslavia, of course, figured prominently in Germany's plans for the Balkan action. For one thing, the most important lines of communication to the southeast ran through that country. For another thing, the most practicable route to the invasion of Greece—the Vardar River valley—lay in Yugoslavia, just to the west of the Serb-Bulgar border. Germany's plans obviously called for the use of Yugoslavian communications, and perhaps for the use of the Vardar Valley route into Greece. Apparently, the original thought was that the necessary Yugoslavian coöperation could be obtained through means short of war. The evidence of that

thought is the "tripartite treaty," sold to a weak Yugoslavian government under date of March 26, 1941.

The *coup d'état* that resulted in the renouncing of the tripartite treaty and in effect made Yugoslavia an ally of Britain and Greece occurred on March 30. At the time the *coup* was hailed generally as a great setback to Germany and, from the political viewpoint, perhaps it was. From the military viewpoint, the balance seems in the other direction. For as the result of the *coup*, Germany took on another enemy—but one that despite its potential million-and-a-half of soldiers was militarily impotent (owing to low morale, dissension, lack of equipment, and unpreparedness). On the other hand, the situation regarding the vital communications to the southeast was definitely crystallized—Germany now could act, rather than ask—and the breadth of front potentially available for the attack on Greece was extended to include not only the Vardar Valley, but the entire Serb-Greco frontier. The course of events was to show how effectively the Nazi forces would capitalize on this broadened field.

The general reaction through the world to the Yugoslavian *coup* was to conclude that it would necessitate a drastic regrouping and reinforcing of German forces, and that the Balkan campaign would thus be delayed indefinitely. Events soon showed the fallacy of that reaction. Germany was actually able to launch its campaign within a week of its diplomatic rebuff. Illustrated here are two points: first, the fact that the German plans, contemplating as they probably did the use of the Vardar Valley, were not completely disrupted by the turn of events; and second, the fact that the German practice of mobilizing overpowering forces against weak enemies provided the excess strength to meet the demands of the new situation.

With Yugoslavia definitely in the field against her,



Germany moved swiftly. In this case, swiftness of action paid dividends even larger than usual: first, because Yugoslavia's mobilization was not far advanced, and her dispositions of standing forces were unfavorable; and second, because there had been little or no staff coöordination between the Allies, Britain, Greece, and Yugoslavia. As of April 6th, the actual date the campaign began, Germany was facing a poorly organized, uncoördinated coalition of enemies. But as of May 1st, the situation might have been otherwise.

The campaign on the German side was itself something of a coalition effort, involving as it did action on the parts of Germans, Italians, and Hungarians, and coöperation on the part of Rumanians. However, in contrast to the situation on the other side, there is evidence on the German side of close coöordination among the allies. "It is scarcely plausible," says a Swiss critic, "that all these operations in the Balkans were so uniformly successful without some central authority over all the forces involved." The Swiss critic's thesis is that, although no formal announcement of the existence of such a central authority ever was made, the results speak for themselves. As a matter of fact, the results speak for the thesis that coöordination on the German side was a simple matter of the German High Command telling its "allies" where and when to act, and thus insuring that they did not act in any manner which could compromise the high objectives of German arms. It was a coalition in which Germany called the plays—and executed all the important ones.

The essence of the German plan of campaign was simply this: to drive a wedge through the center of the opposing forces, and then to encircle and annihilate the resulting parts. The similarity of this strategy to that of the campaign of 1940 in the west is striking—and has many times been discussed in the German

military press. In fact, a fair over-all conception of the Balkan campaign can be gained by imagining a small-scale edition of the campaign in the west, with the Battle of Flanders and the Battle of France being fought simultaneously following the breakthrough.

#### DISPOSITIONS

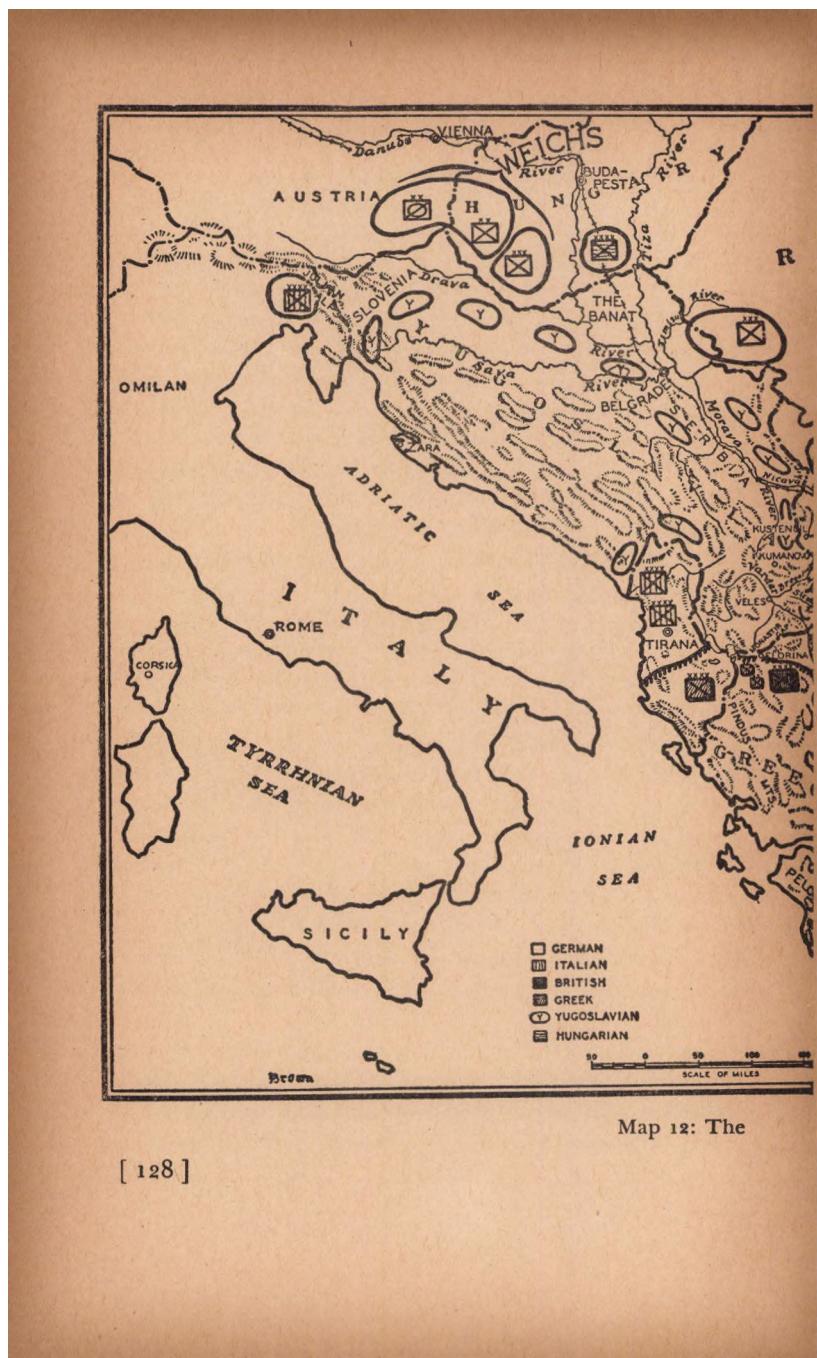
The dispositions of the different belligerents at the beginning of the Balkan campaign cannot be definitely delineated. One thing is clear: Yugoslavia was threatened from every direction excepting the south including the vertical as well as the lateral threats. The German Second Army of von Weichs was assembled in lower Austria and lower Hungary. Diagonally across Yugoslavia, the other German mass, the Twelfth Army of von List, was assembled in Bulgaria in the area south and east of Sofia. Another smaller German mass was assembled south of the Timisul River in Rumania. A Hungarian army was waiting in southern Hungary between the Danube and Tiza Rivers, just over the border from one of Hungary's many "lost provinces," the Banat. Along the Italo-Slovenian border, the Italian Second Army of Ambrosio was assembled behind the Julian Alps. In Albania, two Italian armies, the Ninth (Biroli), and the Eleventh (Geloso), were pinned down at the moment, but were ready to capitalize on anything the Germans might do for them. Midway between Albania and the Julian front was the small Italian garrison at Zara, possessing at best only a bit of nuisance value (map 12).

Precise information as to the sizes of the Axis forces has not yet become available—except for those that fought in some of the individual operations as will develop later in this account. According to Hitler's Reichstag speech following the conclusion of the campaign (on May 4th), a total of thirty-two German divisions

were provided for the campaign. Of these, twenty-one are stated to have been actually committed to action. Of the twenty-one divisions seeing action, eleven are listed as regular marching infantry divisions (including some mountain units), four as motorized infantry divisions (including one SS division), and six as panzer divisions. As will develop later, it appears that the Twelfth Army of von List committed three panzer divisions and about six other divisions to action, leaving three panzer divisions and eight other divisions to be accounted for between the Second Army of von Weichs and the force assembled in Rumania. Meanwhile, the Italian Second Army is known to have consisted of three infantry divisions, two motorized infantry divisions, and three armored divisions.

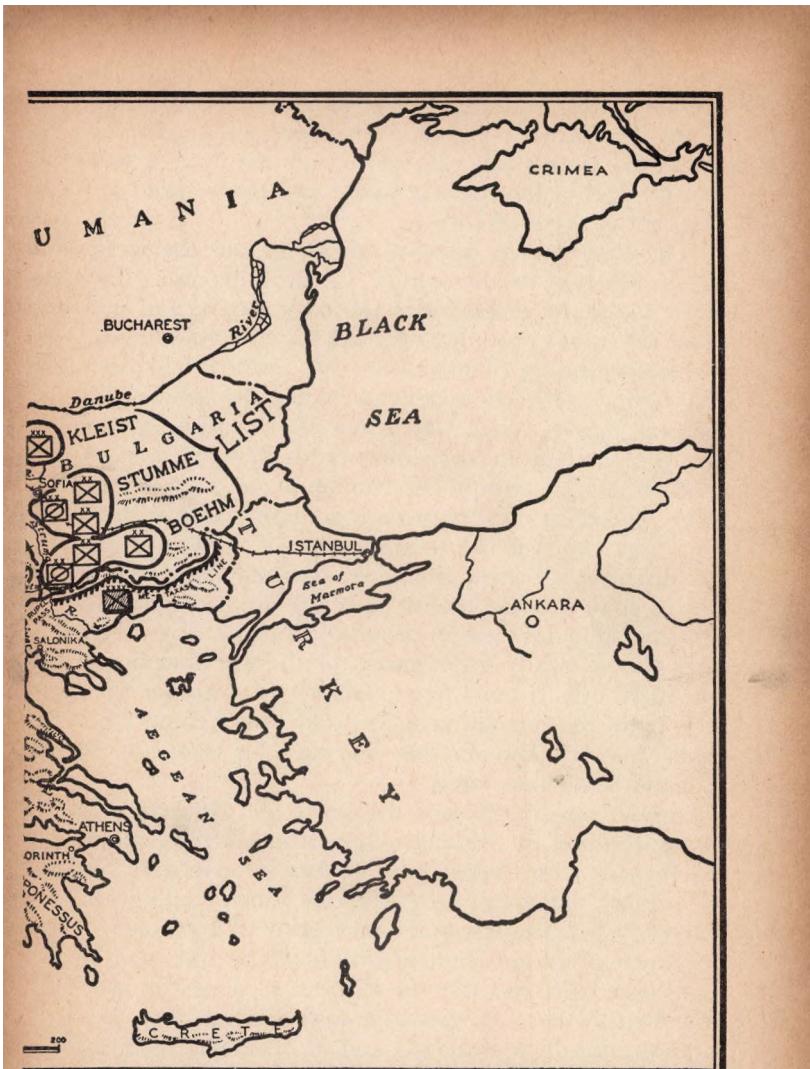
Of course, the German *Luftwaffe* played its usual decisive rôle throughout the Balkan campaign. Here again, details as to dispositions and numbers are lacking. But going again to Hitler's post-mortem speech, we learn that the operations in the air were under the direct personal command of Goering, and that the air forces involved consisted of two "groups," commanded by Generals Lohr and Richthofen, respectively. According to the Swiss authority, the operations of these two groups were supplemented by those of the Italian Air Force and of a German air group stationed in Italy. The lack of details concerning German-Italian operations in the air must not be allowed to obscure the fact that those operations were of vital significance, and served to make possible many of the successes gained on the ground.

According to Italian sources, the Yugoslavian Army at the start of hostilities consisted of about thirty infantry divisions, three cavalry divisions, and ten reinforced infantry brigades. These divisions were spaced around the



Map 12: The

[ 128 ]



initial dispositions

country's long borders in what looks like a cordon defense. The situation is shown on map 12. It is to be noted that the general reserves, held chiefly in the north-central part of the country were small—only about ten per cent of the total force.

The Yugoslavian dispositions, then, had the weaknesses inherent in any cordon system of defense. However, the faulty dispositions tell only a part, and perhaps the minor part, of a very sad story. Within a week of the beginning of hostilities, the country had been through a political upheaval. Mobilization was just getting slowly under way when the invasions came. Units in the standing divisions were depleted in strength and deficient in equipment. Morale in general was low, and some units must have been actually disaffected. In fact, there is evidence to show that as the war began a considerable regrouping of the Yugoslavian standing forces with a view to interspersing loyal units with questionable ones was in progress. In short, Yugoslavia was almost totally unprepared for the war that began on April 6th. It must have made everyone other than the radio commentators smile when the Serbian General Simovich said on that day that he would be in Vienna two weeks later.

As the campaign began, the Greek and British forces were disposed in Albania and northern Greece about as follows: one Greek army of four or five divisions (Papagos) defended the "Metaxas Line," along the Greco-Bulgar border; one Greek army of seventeen or eighteen divisions (Tsolakoglu) held the line won in southern Albania after six months of successful war; the British corps of two infantry divisions (one Australian, one New Zealand) and an armored regiment (Wilson), held a line from a point southwest of Salonika to the Greco-Serbian border near Florina; and a Greek corps of two divisions, operating under the orders of

General Wilson, extended the British line through the mountains to the west.

In plotting the Greco-British dispositions on the map, one is forcibly impressed by the dependence placed on Yugoslavia's power to resist, and especially on its ability to protect its Bulgarian border. The gaps between the various segments of the Greco-British lines would mean nothing—if the Yugoslavs were to hold. And since the consensus was that southern Yugoslavia and northern Greece were completely unsuited to blitz tactics, the conclusion followed that Yugoslavia would hold, the Balkan front would be established, the Grecian airfields would be denied the Axis, and on some bright future day there would come the drive up the Danube that would be the beginning of the end for Germany. The estimate of the characteristics and capabilities of the Yugoslavian Army and terrain reads alarmingly like the 1940 French estimate of the characteristics and capabilities of the Ardennes. . . .

#### TERRAIN

An estimate of the terrain involved in the Balkan campaign is best gained through studying the map. Such a study is essential to an understanding of the campaign, for the operations invariably depended upon control of passes, roads, valleys, defiles. As our story develops, it will be necessary to consider local details of terrain. But meanwhile, in order to get the general picture established, we may note in passing the following limiting features of the terrain:

(1) *The northern Grecian border.* The terrain along this border is a mass of rugged mountains. So far as motor traffic is concerned, the mountain barrier is pierced at only three points: the Struma River Valley, which crosses the Greco-Bulgar border through the narrow Rupel Pass; the Vardar River Valley, which

provides the easiest route; and the Monastir Gap, west of the Vardar River and east of Albania.

(2) *The Serb-Bulgar border.* The terrain along this border is also a rugged mass of mountains. The chief gap through this barrier is along the Nisava River, through the valley of which runs the main Vienna-Belgrade-Sofia-Istanbul railway. The single good motor highway crossing the Serb-Bulgar border runs parallel to the railway. The few other gaps through the border mountains accommodate only inferior roads. Three of these minor gaps invite our especial attention: the one connecting Kustendil with Kumanovo; the one following the course of the Bregalniza River, a tributary that flows west from the border to the Vardar River, meeting the latter in the vicinity of Veles; and the one following the course of the Strumica River, a tributary to the Struma, stretching west at right angles to the Greco-Bulgar border.

(3) *Northern Yugoslavia.* Northern Yugoslavia is a land of broad rivers: the Danube, the Save, and the Drave. All of these flow from the north or east, uniting at or near Belgrade. Meanwhile, flowing from the south and joining the Danube just below Belgrade is the Morava River, which with its tributary, the Nisava, forms the natural avenue of communication between Belgrade and Sofia.

(4) *Greece.* Greece is a poor and mountainous land where good roads are a rarity. The Pindus range of mountains, running roughly north and south, effectively divides the country into two theaters of operation. All cross-country roads, either north-south or east-west, pass over numerous ranges of mountains and hills. The Peloponnesus is a dangling peninsula, connected to the mainland by the ten-mile-wide Isthmus of Corinth. The Isthmus itself is cut by a canal, constructed years ago in the interests of navigation.

#### THE YUGOSLAVIAN CAMPAIGN

As we have seen, German high strategy called for a breakthrough that would divide the enemy forces into two main parts, and an ensuing encirclement and annihilation of each of the parts. The breakthrough was to be made in southern Yugoslavia, and was to separate the Yugoslavian from the British-Greco forces (map 13).

In considering the operations themselves we have information with which to get fairly specific about the breakthrough and the campaign in Greece. But concerning the campaign in the north—in Yugoslavia, that is—we must resort to generalities. Our procedure will be first to dispose of the generalities, and then to get on to the details of the operations in the south.

The historic route of invasion to northern Yugoslavia and Belgrade has been from the north and west, down the valleys of the Danube, Drave, and Save (Eugene, 1697; Mackensen, 1915). Therefore, it was reasonable to expect that the inevitable German advance on Belgrade would come from the north and west. It did come from the north and west—and from the south. This drive from the south, which we will consider first, turned out to be one of the major strategical surprises of the war. The idea of an assault on Belgrade from the south, being non-historic, was written off in most books as impracticable.

The movement was entrusted to none other than Generaloberst von Kleist, he who had executed the breakthrough of the panzer corps at Sedan the previous spring. In the new campaign, Kleist again had a corps. The exact composition of the "Korps Kleist" has not been divulged, but if we place it at two panzer and two motorized and one mountain divisions, our probable error will not be large. The Korps Kleist was a component of List's Twelfth Army and was assembled

near Sofia, astride that Niscava Valley road we have already mentioned as being the only good motor highway to cross the Serb-Bulgar border.

Kleist moved out on April 8, two days after other elements of the Twelfth Army had launched the breakthrough attack to the south. Incidentally (and not convincingly), the Germans used this two-day lapse between times-of-departure for neighboring corps of the same army as evidence of their contention that the "perfidy" of Yugoslavia did necessitate extensive regroupings of German forces. Obviously, they write, the various corps would have jumped off simultaneously had that been possible. In any event, the Kleist thrust gained ground rapidly. Like almost every other drive of this campaign, this one of Kleist's was a spearhead moving exclusively on the narrow road. There is evidence to indicate that the advance over the border passes to beyond Pirot was led by mountain infantry with the armored and motorized units following behind. There was not much resistance, and all there was was simply and quickly overrun. By night time of the first day the mountain troops had reached Pirot; and on the next day (April 9th), panzer units rolled into the relatively broad valley of the Morava River at Nish.

The fall of Nish antedated by a day the fall of Skoplje, fifty miles to the south. The taking of Skoplje, insuring as it did the success of the breakthrough, carried the greater strategic significance. But it was the fall of Nish that shocked the Yugoslavs. It was "... like a mine exploding in the middle of the country." The reaction of the Yugoslavian High Command—and it was about the last time that that command was able to react to anything—was to order its slender general reserves to move toward Nish. One division that had been dispatched to aid in the abortive attack on the Italians in Albania was ordered to countermarch toward Nish.

However, the activities of the German air force, the insufficiency of lateral communications, the lack of modern transportation on the part of the Yugoslavs, all combined to insure the failure of any efforts to organize effective counterattacks.

There now arose a great deal of uncertainty as to the next moves of the Germans in Nish—uncertainty, that is, in the minds of the Yugoslavs and in the minds of the world's military commentators, most certainly including our own. The general expectation was that the move to the west would continue, or that there would be an attempt to unite with the Skoplje forces. The Germans chose to do neither. On the 10th, having effected ". . . one of those typical reversing operations of which they [the Germans] are the masters, . . ." Kleist swung to the north and set out along the valley of the Morava, toward Belgrade.

The Korps Kleist, still moving as a spearhead confined to the valley of the Morava, found minor resistance at Yogodina (on the 10th), and at Krakujevac (on the 11th). On the 12th, at Mt. Avalon, within sight of Belgrade, the corps encountered its first serious resistance. The fight at Mt. Avalon lasted for thirty-six hours—an indication that the tanks, if indeed they had been leading the advance, had been stopped, and had been withdrawn while the infantry-artillery-engineer assault teams cleared the way. As a matter of fact, the gaining of the issue was finally greatly helped by the *Luftwaffe*, which concentrated in great strength over the area, and succeeded in silencing the Yugoslavian artillery. On April 13th, Kleist entered Belgrade. His corps was now moving in two main columns, one by way of Patanka, the other by way of Smederei. To Kleist's possible chagrin, when he entered Belgrade on the 13th, he found that he was only the second German officer to demand the surrender of that city within the

past few hours. It seems that during the afternoon of April 12th, a young daredevil captain of infantry had crossed the Danube from the north with a party of nine men, and had demanded, and practically obtained, the surrender of the city.

This young captain and his exploit lead us to a consideration of the second drive on Belgrade—the one originating in the Temesvar district of Rumania. We have seen that a German mass, probably a small corps, was assembled in this area. This corps appears to have consisted of two or three infantry divisions. It moved out, with the occupation of Belgrade its objective, on April 9th. On the 10th it had reached Pancevo and Semlino, with Belgrade within sight just across the Danube. However, the Belgrade fortifications were very strong facing north, and so the Temesvar Corps, having both fortifications and a great river to overcome, decided to await developments. Meanwhile, the young captain mentioned above did manage to cross the river on the 12th and beat von Kleist to the city hall. (The fact that a captain and nine men could spend about a day in an enemy capital, disarming troops and demanding surrenders, is indicative of the morale existing in the city at the time.)

The third thrust at the hopelessly-situated Yugoslavian capital was made by a corps from von Weichs' Second Army. This corps had been assembled in southern Hungary, and launched its attack from this area on April 10th. The corps appears to have been composed of infantry divisions, some of them motorized. Its advance on Belgrade at least was conventional as to route—down the valleys of the Drave and Save Rivers. By the 12th, the corps was at Obrenovac and Valjevo, close to and on the same side of the river as Belgrade. Apparently, this corps stood aside while the panzer divisions of Kleist occupied the city.

As the three German drives converged on Belgrade, the Hungarians to the north played *their* little part in the show. The Hungarian Army, the strength of which is neither known nor significant, crossed the Yugoslavian border at many places west of the Tiza River on April 11th. By the 15th, without important fighting, the Hungarians were in possession of their former territories—the territories north of the Drave and Danube Rivers, and west of the Tiza River. The Hungarian effort, although of political significance, scarcely deserves even this single paragraph so far as its tactical significance is concerned.

The Second Army of von Weichs consisted of two corps (perhaps plus others not committed to action). As one of the corps moved out toward Belgrade as already described, the other moved out to the south, against the Croatian capital of Zagreb. The ultimate strategic objective of this corps was to complete the encirclement of the main Yugoslavian forces. Again, we must surmise the composition of the corps, but it contained at least one panzer division, and certainly several infantry divisions. Zagreb was occupied on the 11th, Sisac and Bihac on the 12th. And on the 12th also, detachments were sent over west to Karvolac, there to make contact with elements of the Italian Second Army which was just bending to its job of policing the Dalmatian coast.

By this time, the Yugoslavian situation was completely desperate. As will have become evident, the desperateness of the situation had arisen not from crushing defeats in the field, but rather from a combination of less tangible things: dispositions that made it impossible to counter effectively the bold German strategical moves; pulverizing attacks by the *Luftwaffe*; low morale, amounting almost to open dissension, through the ranks and through the peoples. Making the best of the situation, the Yugoslavs now were retreating

into the mountainous country of Bosnia and Montenegro. And meanwhile, detachments were peeling off the several corps attacking Belgrade for the purpose of pressing the pursuit more vigorously. All the time, the *Luftwaffe* was in there, using its complete control of the air to the most ruthless advantage.

This is as good a time as any in which to pitch a word about the rôle the Italians played in this campaign. As already indicated, the mission assigned the Italians was the occupation of the Dalmatian coast—an area which, under the circumstances, could not have been anything other than practically undefended. As we have seen, to accomplish this mission the Italians had assembled an army of five infantry and three armored divisions behind the Julian Alps. In addition, there was the prospect of help from the two Italian armies in Albania, should developments free these forces from pressure by the Greeks.

The Italian Second Army came down through the passes of the Julian Alps on April 10th. On the 12th, elements of the army made contact with the Germans at Karvolac, as already noted. There then began a parade down the coast: Otocac on the 12th, Kinnon the 14th, Mostar on the 16th (a minor fight there), Ragusa on the 17th. En route, the victorious columns picked up the little garrison from Zara. This force had moved out toward Zinn when the coast seemed clear.

Meanwhile soon after the war had begun the Yugoslavs had attempted their one and only offensive action—against the Italians in Albania. The attack was ill-organized, and soon was reduced to the impossible by the successful German breakthrough at Skoplje. As the Yugoslavian drive faded, and as the advance of the Germans threatened the Greek flank, the Italians in Albania went over to the offensive. That was on April 12th. In the days immediately following, Italians and

Germans touched hands at several points along the Albanian eastern border. The mass of the Italian Army in Albania followed the Greeks as they withdrew slowly to the south. Other elements of the Italian Army in Albania pushed out along the coastal roads to the north. These elements traveled by way of Cetinje and Cattaro, and on April 17th met elements of the Italian Second Army at Ragusa. So much for Italian participation.

As for the real war, we left it with the Germans as they moved south from Zagreb on April 12th. The Yugoslavian situation had become utterly hopeless. On the 15th, negotiations for a capitulation were begun, and on the next day a large part of the Yugoslavian forces surrendered. On the next day (April 17th), the unconditional surrender of all Yugoslavian forces was effected. The campaign north of the Skoplje breakthrough was over.

#### THE BREAKTHROUGH

One of the significant characteristics of all recent German campaigns has been the fact that they have been waged largely on the roads. We have seen that this was true in Yugoslavia, where the drives were in the form of semi-isolated spearheads. It was a method seen in even more pronounced form in southern Yugoslavia and Greece. This was a war of columns, not of fronts.

In beginning consideration of the breakthrough and the campaign in Greece, it is pertinent to recall one point about the difficulties of the mountainous terrain. The point has reference to the differences in the estimates of that terrain, Yugoslav versus German: the Yugoslavs believed the difficulties practically precluded use of armored and motorized forces over the borders; the Germans believed otherwise. But the Germans, though they could not conceal the fact that they were

massing troops in Bulgaria, did not advertise their belief in the negotiability of the passes. In fact, they went to extreme lengths to protect the secrecy of their detailed plans. "The Serb, watching from his mountain tops, saw not a single German soldier." Marches to final assembly areas were made only by night, and the assembled units were kept strictly under cover. Thus, on the morning of April 6th, the Germans were able once again to attain the priceless advantages of surprise.

The corps effecting the surprise was another component of List's Twelfth Army. The corps was commanded by General-of-Cavalry Stumme. As will develop later, the corps consisted of two panzer divisions, at least one mountain infantry division, one motorized infantry division (the élite SS division), and perhaps one other regular infantry division.

The sector assigned to the Korps Stumme lay to the south of Sofia and to the north of the Strumica River. In that sector are two of the poor but passable roads across the border mountains—one leading to Kumanovo and Skoplje, and the other to Stip and Veles. The Stumme plan was to attack in two columns. The northern column (moving on Kumanovo) was to consist of the panzer division and the SS division. The southern column was to consist of the infantry and mountain divisions. The immediate objective of the corps was to be the seizure of the area Stip-Veles-Skoplje-Kumanovo.

At dawn on April 6th the columns moved out. The panzer division, leading the northern column, made rapid progress until its advance elements reached the pass at Stracin. The pass was found to be occupied by what was estimated as a regiment of Serbian troops. The pass had never been fortified, but the defenders were in positions of great natural strength.

The ensuing action at the Stracin Pass provides one more clear example of German tactics under circum-

stances where panzer units are brought face to face with formidable resistance. "This was a case [the German authority, Colonel Soldan, speaking] where only the good old infantry was of use." The tanks were held up, and a battalion of the "good old infantry" was sent forward with the mission of clearing the way—probably a battalion from the rifle brigade of the panzer division. It was a fierce and bitter fight, and it lasted about four hours. The German infantry, applying *stosstrupp* tactics (small detachments assaulting individual positions), finally forced its way through the pass. Shortly the Serbs counterattacked, but with no success. In describing the repelling of the counterattack, mention is made of the havoc wreaked by ricochetting bullets and flying splinters of stone.

It must have been evening by the time the way through the Stracin Pass was found to be clear. But even with darkness approaching, the Germans moved swiftly to capitalize on their success. All during the night, elements of the panzer division rolled on forward, ". . . negotiating the narrow, winding roads in a manner that would have been creditable in a peacetime exercise." During the course of the following day (April 7th), the mass of the panzer division traversed the pass, with the motorized SS division following close behind. By now, the busiest elements in the command were the engineers who were called on constantly to repair bridges and roads that had never been designed for the loads of a panzer division.

The advance guard of the panzer division reached Skoplje-on-the-Vardar at 5:00 P.M., April 7th. Apparently, the advance guard was traveling well ahead of the main body. It had had a few minor brushes with the enemy during the day. But the *Luftwaffe* was now in the picture and was chaperoning the column with waves of dive-bombers. Any show of enemy resistance

almost immediately brought forth the Stukas, and generally it was about all that was needed. Arrived in Skoplje, the commander of the panzer division could look back on sixty miles covered in two days' time.

The advance had been over terrain that was tough (although not as tough as had been feared), but against an enemy who, except for the one sharp scrap at the pass, had turned out to be soft indeed.

While the panzer division was thus making good its advance along the northern route, the infantry division was doing well enough too along the southern route. This division, moving out at dawn on the 6th, ran into resistance just over the border, at a defile near Carevo-Selo. It is to be assumed that this resistance was handled in a manner similar to that in the Stracin Pass. By 10:30 A.M. the way was clear. It will be recalled that after the action at Stracin Pass the advance guard of the panzer division rushed on ahead. The southern column had no panzer units, but as soon as the action at Carevo-Selo was over, its advance guard was set up on trucks and cars that were requisitioned from the entire division. From this point on, we have the picture of a marching infantry division with a motorized advance guard. The division would soon be strung out over a long distance.

By evening of the 7th, as the panzer division occupied Skoplje, the motorized advance guard of the southern infantry division reached Veles. Between Veles and Stip, it had cut through an entire Serbian regiment. The mass of the division continued to march along, far to the rear. Incidentally, this division was by way of piling up some kind of marching record. It had arrived in its assembly area only the day before the attack, after having marched afoot all the way across Rumania and Bulgaria.

As of the evening of April 7th, we now see two thin

columns, extending like rapiers across the border mountains to the Vardar River. There is no front; just the two columns, heading up at Veles and Skoplje. Between and around the columns are enemy units—units that have not been tactically defeated but that certainly have been strategically surprised. The German Army Order of that day (evening, April 7th) could announce ". . . the breakthrough is effected . . . enemy motorized units and one to two divisions have been blasted . . . the enemy is disintegrating. . . ." *Disintegrating*, that is indeed the word. Apparently, it was exactly what was happening to those six-odd Yugoslavian divisions assigned to guard the Bulgarian border.

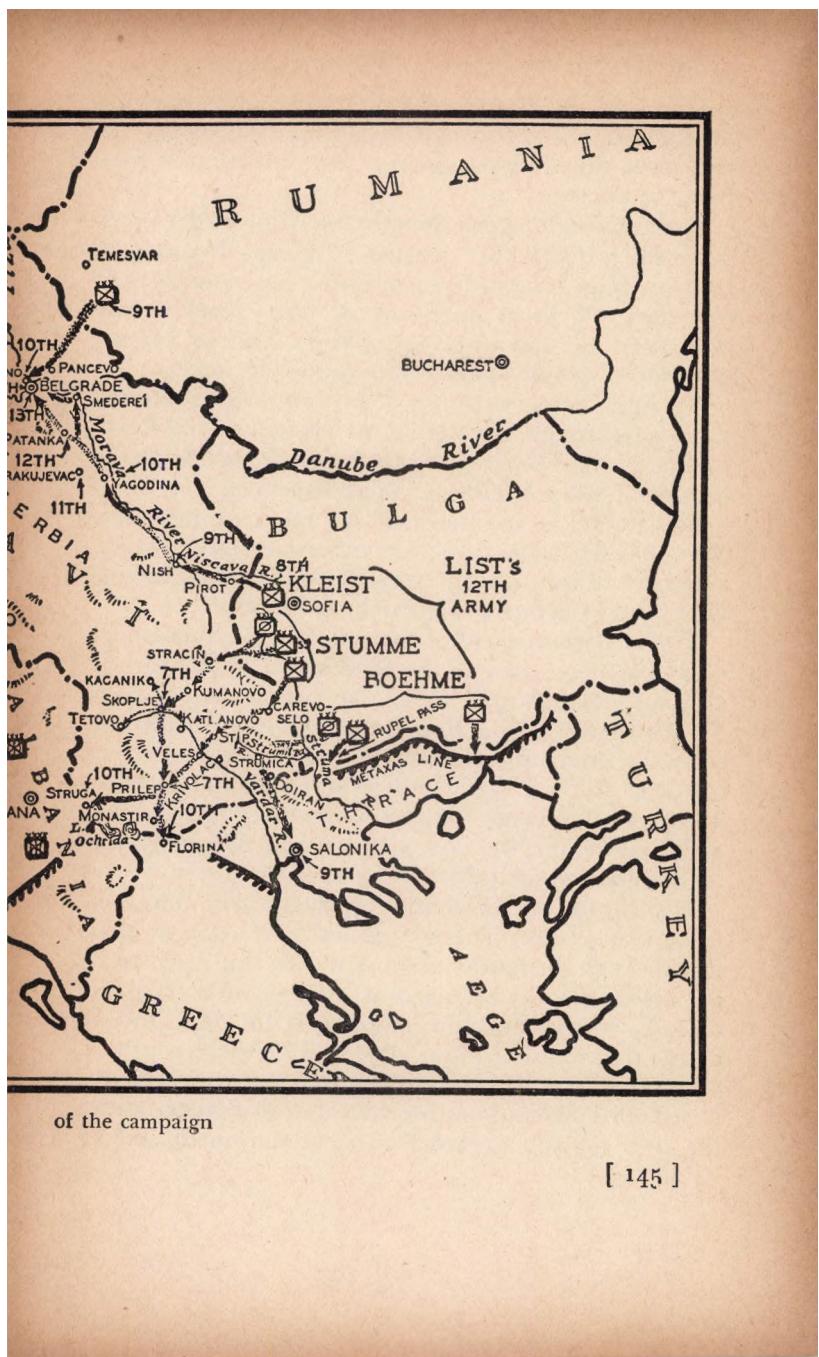
During the night of April 7th-8th, the panzer division at Skoplje went into an *igelförmige* position—a position outposted around the perimeter of a circle. So far as the Germans could know, their flanks, and even their rear, were wide open. In the course of the next day (April 8th), the panzer division held its general position, but sent out flying detachments to secure critical points in the vicinity: Kacanik, Tetovo, Katanovo. Meanwhile, the motorized advance guard of the southern infantry division was again on the move, this time from Veles down to Prilep.

There now occurred one of those tactical-logistical maneuvers which demonstrate the adaptability of German plans to situations as they develop. The motorized advance guard was in Prilep; but the mass of the division was hoofing it along, miles to the rear. Meanwhile, it was important that the opportunity to seize the passes into northern Greece should not be lost. One of the three passes, the Monastir Gap, lay just ahead, there for the taking by a strong force. The motorized advance guard was not strong enough, but there was also the motorized SS division, still marching behind the panzer division. This thought was translated immediately into



May 13: The opening

[ 144 ]



of the campaign

action. The roads were cleared, and the SS division highballed through toward Prilep—and Monastir. We will meet this division again as we consider the campaign in Greece.

As of this night, April 8th-9th, the Army Order could raise the number of "blasted" Serbian divisions to three or four. The order mentioned large numbers of prisoners and great quantities of booty; and it congratulated one and all on the obvious fact that contact with the Albanian Italians was as good as made.

On April 10th, it became clear that, having effected the breakthrough, the next great mission of the Korps Stumme would be to swing to the south for the Battle of Annihilation in Greece. As we have seen, the Yugoslavian forces to the north of the breakthrough were already being taken care of by other German units. As a matter of fact, on this very day, Kleist was leaving Nish, and Weichs was approaching Zagreb.

The important event of the 10th was the appearance of forward elements of the SS division at Florina on Grecian soil and well within the vital Monastir Gap. To the British, whose line at the time extended southeastward from a point near Florina, the appearance of Germans in the gap constituted an immediate menace. The news of the appearance must have registered much as the news that the Germans were in Abbeville had registered the year before.

Meanwhile, the southern infantry division, minus its motorized advance guard, continued to make its slow way through the border mountains. On this April 10th, the division finally managed to catch up with a Serbian division which had been harassing it for days, and to defeat that division in an action at Krivolac, south of Stip. The motorized advance guard, having been relieved of its missions southward by the SS division, spent the 10th moving toward Struga, at the north end of

Lake Ochrida. There, and at several other points in the vicinity, contact with the Italians was gained. It may be significant to note, that, just before contact was made, the motorized detachment engaged in a little action the chief result of which was to liberate a batch of Italian prisoners.

The panzer division, having consolidated its position in and around Skoplje, spent the 10th quietly. By evening of that day it was drawn up, facing south, with its forward elements near Veles. We will next meet this division in Greece.

#### THE CAMPAIGN IN THRACE

With the SS division poised in the Monastir Gap, the panzer division headed up at Veles, and the marching infantry division assembled between Stip and Krivolac, we must turn back and consider the operations of the corps that had the mission of capturing Salonika and Thrace and destroying the Grecian army east of the Vardar. This corps, commanded by the Austrian General Boehme, was another component of List's Twelfth Army. The Korps Boehme consisted of one panzer division, and two or three other divisions (including perhaps two mountain divisions). It had assembled close to the Greco-Bulgar border, with the heaviest weight toward the right (west) flank.

It will be noted that the Korps Boehme was in a pocket formed by two borders: the Greco and the Yugoslavian. Each of these borders was located over a mass of rugged mountains, the general characteristics of which have already been described. To the south the passes over the mountains forming the Greco-Bulgar border had been fortified by the Greeks. They formed the now-famous Metaxas Line. To the west, the passes over the mountains of the Yugoslavian-Bulgar border were fortified, as we have seen, only by the Serbian

thought that they would be impassable for armored-motorized traffic.

As would be expected, the Boehme plan of attack was calculated to take full advantage of the Serbian weakness. The Metaxas Line was to be assaulted, the main effort being made at the Rupel Pass, where the Struma River breaks through the mountains. At the same time, the corps' panzer division was to make a wide envelopment, through the Strumitza Pass into Yugoslavia, and then down the Vardar Valley to Salonika. In other words, if the Metaxas Line should not give away before the frontal assaults, it was to be outflanked.

As in most other engagements of this campaign, the action in the Rupel Pass necessarily involved only small forces, for there simply was not room enough in the pass for large forces to fight. It is probable that the German attack was made by a regiment of infantry (probably mountain infantry), reinforced by combat engineers, and well supported by artillery and dive-bombers. The Greek defenders of the pass probably did not exceed a single battalion. But they were established in fortifications of the most modern design. The Metaxas Line had been constructed during the years 1938-40. It was a small edition of the Westwall, with many small individual works, each of great strength and sited in great depth. Finally, the works were manned by men prepared to fight to the last ditch.

The Korps Boehme moved out against the Metaxas Line at dawn on April 6th. The first few works in the Rupel Pass were taken in a violent surprise assault. But then the advance came abruptly to a halt. The Germans immediately called into action all the implements through use of which they had reduced the fortifications of Poland, the Lowlands, France. The Stukas came over and attacked the works in wave after wave. The high-velocity AA and AT guns were dragged up and took the

firing ports of the works under direct fire. Light and heavy artillery pounded the area. Infantry-engineer assault teams went into action with flame-throwers, grenades, concentrated charges of TNT. These teams used all the tools and all the tricks of modern close-in assault. But here at last was a situation where the German best was merely good enough. Here was a situation in which the application of flame and fire and explosion did not, as in Belgium and France, automatically result in the crews of the defensive works coming out, hands in the air. "The attacking troops, riflemen, artillerymen, pioneers, were fired upon from all sides, and from the works in the rear that were believed to have been silenced. The mountain fortifications were constructed like battleships . . . so that resistance was not definitely broken even after essential parts had been burned out and destroyed. . . ."

The Germans did make progress, but it was very slow. Each individual work had to be reduced, and reduced completely. Otherwise, the attackers were liable to find their flanks and rear under fire as they moved to an adjoining work.

As the Germans made their bloody way through the Rupel Pass, the panzer division of the Korps Boehme was traversing the Serb-Bulgar mountains in a manner quite similar to that of other attacking divisions. The road along the Strumitza River was very bad, but enemy resistance apparently was almost nil. The division had only one little fight, this near Strumitza. It is probable that this resistance was overcome by infantry elements of the division. In any event, the division occupied Doiran, at the edge of the Vardar River valley, on April 8th.

From Doiran to Salonika, the road was relatively a boulevard, and was apparently not defended at all. The British line at the time was about thirty-five miles to the

west while all Greek troops in the vicinity were standing in and behind the Metaxas Line. This failure of the British and Greeks to protect the Vardar Gap can only be put down as a fatal and inexplicable blunder. As it was, the panzer division occupied Salonika on April 9th.

The fall of Salonika meant simply and solely that the Metaxas Line had been turned and now was untenable. The situation is strikingly reminiscent of the situation in France, in which the Maginot Line was rendered untenable by the advance of German forces around and behind it. The Greeks, who were still holding the critical works in the Rupel Pass, recognized the hopelessness of the situation. Thereupon General Papagos surrendered his army of four or five divisions.

#### THE CAMPAIGN IN GREECE

With Salonika and the Monastir Gap—the two important gateways to northern Greece—securely in hand, the Germans could turn to the campaign in Greece proper. The pertinent dispositions of the British and Greek forces had not changed materially during the few days of fighting. That is, the Greek main army still held the line in southern Albania, and the British corps was strung out from a point southeast of Florina to the coast near Katerini. The right (east) of the British line was held by the New Zealand division; the center and right by the Australian division and the armored regiment. Farther to the west, the Greek corps of two divisions was holding the passes over the Pindus mountains (map 14).

With Yugoslavia in a state of collapse, with the Greek line in Albania gravely menaced by the German breakthrough advance, and with all hope for the formation of an Albanian Macedonian front gone, the British necessarily turned their thoughts to evacuation. Their problem had become one of selecting and holding delaying positions that would permit their withdrawal

through the length of Greece to the beaches and harbors of the southern coasts.

The terrain was favorable to the British design. The roads of course were few and it was far between them, and they ran through one pass and defile after another. The passes offered good positions for defense, and the many defiles (including bridges over streams) offered great possibilities for demolition.

The first of General Wilson's remarkable series of pass defenses occurred a few miles southeast of Florina near Vevi, where a range of hills cuts obliquely across the Monastir Gap. The British stand at this point was made to cover the crossroads at Kozani which was being used by troops from the east. Let us pick up the story as of April 10th.

On April 10th, the German SS Division (motorized) moved south out of Florina, with the mission of seizing the crossroads at Kozani quickly and at all costs. As the advance elements of the division approached the village of Vevi, lying near the pass over the hills described in the paragraph above, they were taken under brisk artillery fire. It soon became evident that the British (soon identified as Australians) were set for a determined stand, and were not to be pushed out of the way by any advance guard. The advance guard therefore took to cover, and waited for help from the main body to come up.

The main body, however, was having its troubles. As was often the case in this campaign, the first vehicles to use a road had the easiest going. Under continuous traffic, the roads often failed, and columns were delayed while all available manpower was put to work repairing the roads. And here on this road, the weather also turned for the worse so that in addition to a bad road, the SS division had to contend with rain and snow and cold. All in all, the most that it could accomplish during the

11th was to develop the situation. The British were found to be occupying well-organized positions on the northern slopes of the range of hills.

The German estimate of the situation as of evening on the 11th indicated that a coördinated attack was required. The corps commander favored a double envelopment, but he agreed to let the SS division have one good try at a frontal assault. The assault took place on the 12th. It was supported by all the divisional artillery, and by one battalion of heavy corps artillery. The fighting was bitter, ". . . often man against man. . . ." Slowly the issue swung to the favor of the attackers. By 6:00 P.M., they had reached the southern exit of the pass and were watching columns of British vehicles moving south across the lowlands. During the night some German infantry, perhaps a battalion, descended onto the lowlands, but there was no question of a close pursuit. As in every German advance in Greece, the vehicles could only move forward after engineers had gone ahead and rebuilt the bridges, filled in the craters, and cleared away the mine blocks.

The British, on their part, continued to shell the German positions through the night (April 12th-13th). Early next morning, they launched a counterattack against the battalion or so of infantry which, as noted above, had descended from the pass during the night. This counterattack saw the first commitment to action of British tanks. There were about a dozen of them, tanks from the armored regiment. German sources describe them moving to the attack ". . . with infantry clinging to them and moving beside them. . . ." As a matter of fact, the counterattack was well conceived: the German infantry on the lowlands had nothing more than an AT gun or two with which to defend itself. The SS division commander, watching developments from an OP on the pass, is alleged to have been consumed

with anxiety and to have ordered his AA guns forward with all speed. As the guns were coming up the infantry below is alleged to have prepared to receive the tanks as best it could with grenades and blocks of TNT. However, the AA guns came up in time, and the attack was repulsed before it could make itself felt on the infantry below.

As the left of the British line was thus being bent back toward Kozani, serious developments were in progress farther to the east. On the 13th, a mountain division of the Korps Boehme occupied Veria, and on the same day the panzer division that had taken Salonika succeeded in crossing the lower Aliakmon and occupying Katerini.

These developments thrust into the foreground the high strategic importance of the City of Larissa. Study of the map makes the point clear. All roads leading south converge on Larissa; which is to say, all important elements of the withdrawing (and of the pursuing) forces would necessarily pass through Larissa. The holding of Larissa, or rather of the approaches to Larissa, was thus a life-and-death matter for the British; and likewise, the swift capture of Larissa became the high objective of the Germans.

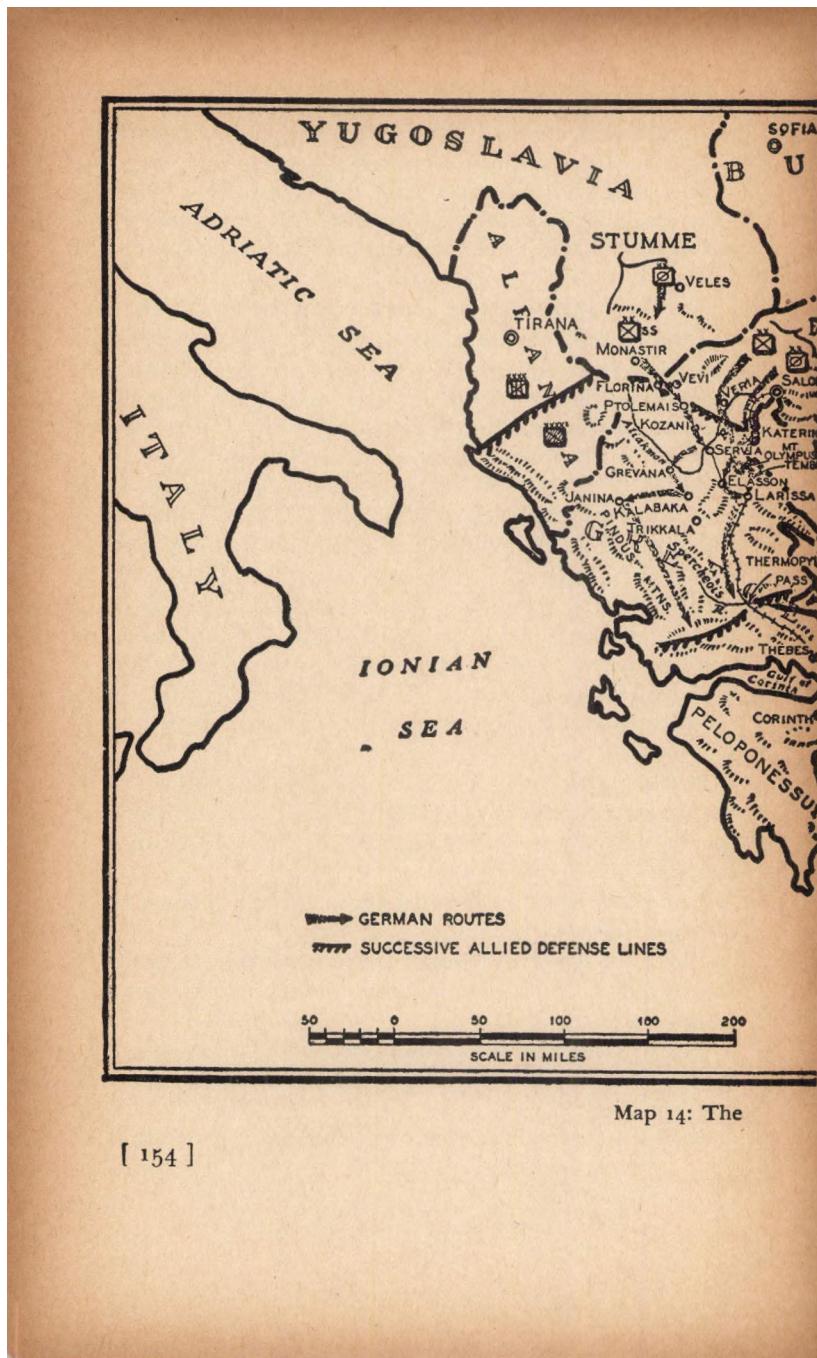
Referring again to the map, it is to be noted that within our theater of operations three roads lead from the north (the scene of the fighting on the 13th) down to Larissa:

The road Kozani-Elasson-Larissa, which is the only modern highway.

The road Katerini-Elasson-Larissa, which, except for the stretch Elasson-Larissa, is not much more than a mountain trail.

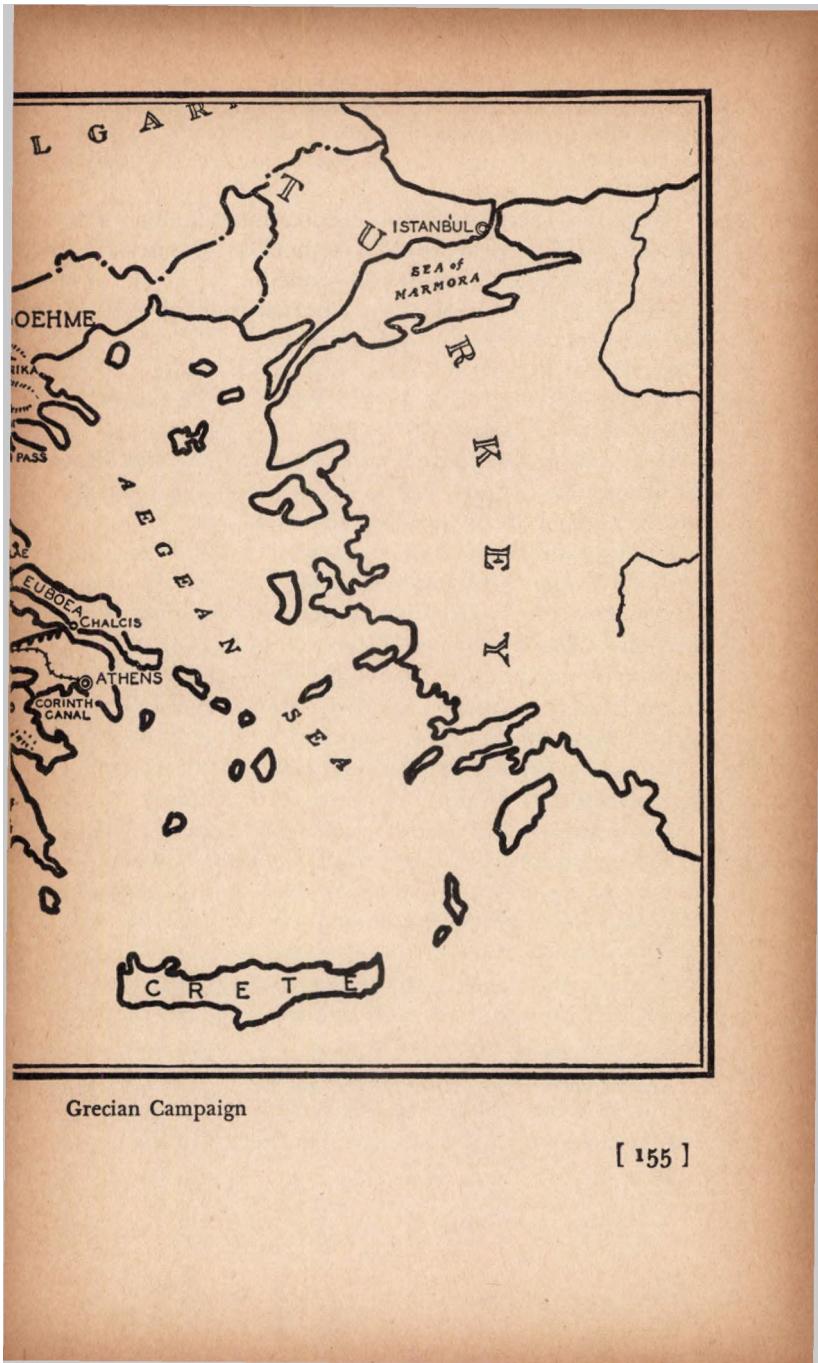
The railway line Katerini-Tembi Pass-Larissa, along which runs a road that is also not much more than a mountain trail.

Between these three roads lay mountainous terrain,



Map 14: The

[ 154 ]



Grecian Campaign

scrub-wooded, almost pathless, and utterly impassable to motorized military traffic. Clearly, the fight for Larissa was to be another fight on the roads, another fight for the passes.

The passes, therefore, dictated the points at which the British would fight their delaying actions. Three such passes were selected, one for each road:

The Servia-Stenaportas Pass, just south of the Aliakmon River on the Kozani-Larissa road.

The Petras Pass on the Katerini-Elasson road.

The Pandelemon and Tembi Passes on the coastal road, Katerini-Larissa.

It was clear that *all* of the passes must be held; that the fall of any one of them would mean the fall of Larissa and the cutting of the line of withdrawal.

Given the problem of forcing one of three passes, the normal German solution would be to select the pass where possibilities looked most favorable, and make the main effort there. This would be an application of the cherished *schwerpunkt* principle—*schwerpunkt* being the German equivalent of “main effort.” But here at Larissa, there was no telling which would be the softest of the passes. And so, the German decision was to treat them all alike, to attempt to force them all at once.

Meanwhile, on the western end of the front, or rather at the western spearhead, an interesting internal maneuver was taking place. It will be recalled that the pass at Vevi had been taken on April 12th-13th by the SS motorized division. As soon as it became evident that the pass would fall, the corps commander ordered forward a panzer division that had been following behind the infantry. This panzer division, apparently not the one we left at Veles in Yugoslavia, was to take over the leading position for the advance to the south. The change in leading elements of the western spearhead was effected

by late afternoon of the 13th. The tanks set out at once for Kozani.

The British, however, were still using the Kozani roads, and the armored regiment was still protecting the town. So it happened that, as the advance elements of the newly-arrived panzer division passed Ptolemais, they were attacked by British tanks. There ensued a tank-versus-tank battle, perhaps similar to the one described in Chapter II. One feature of this battle was the use by the British of antitank guns (37-mm?) mounted on tractors (Bren carriers?). The German accounts state that these "tank destroyers" succeeded in maneuvering themselves up to within ranges as short as 200 yards. As night fell, the British withdrew, apparently having accomplished their mission of delay. The Germans had no objection to the stopping of hostilities: almost all of their tanks were out of ammunition and most of them were down to their last liter of fuel.

The panzer division, continuing to lead the advance, occupied Kozani (without further resistance) early on April 14th. From Kozani to the Aliakmon River the advance was slow owing to the fact that, as usual, the British had done a thorough job of demolitions. One of the better jobs had been done on the bridge across the river itself, just north of Servia.

We have seen that the British proposed to make their major stand along this vital road at the Servia-Stenaportas Pass. This pass was a deep defile, through which the road cut from the river valley to the highlands. The position was one of great natural strength; and it had, in addition, been improved by the Greeks during the preceding years—possibly with just such a situation as the present one in mind.

The Germans reached the site of the demolished bridge on the evening of the 14th. Their hopes of a quick dash to Larissa were raised when, during the eve

ning, they were able to establish a shallow bridgehead. Their intention was to build a bridge during the night and to push forward in strength in the morning. But the attempted bridge-building operation was a complete failure. The failure was ascribable chiefly to British artillery fire which, according to German accounts, was coming from six or seven batteries, including some heavy ones. An attempt early on the 15th to set across an infantry regiment (from the rifle brigade of the panzer division?) for the purpose of silencing the British artillery likewise failed completely, and with heavy losses. The losses are mentioned even in German accounts, which include a note of one platoon that was caught in the pass and annihilated by machine gun cross-fire.

During the 15th, with British artillery fire continuing to fall with great effect on German assembly areas, the Germans re-estimated the situation. Concerning the artillery fire, the Germans remark with some asperity that the British batteries would keep silent whenever Stuka bombers were sent into the air with orders to bomb them. But as soon the Stukas disappeared, the guns would open up again. The Germans say further that their own counter-battery fire was ineffective because the British pieces were emplaced deep among the rocks. Be that as it may, the German re-estimate of the situation indicated that the forcing of a crossing at this site was a near-impossibility. And meanwhile, reconnaissance had shown that there were no other practicable bridge sites in the vicinity.

Facing these unpleasant facts, General Stumme came to a bold decision: to strike the enemy rear by a wide envelopment, moving from Kozani over Grevana, Kalabaka, Trikkala, Larissa. To effect this envelopment, the general had available an old acquaintance of ours: the panzer division we left at Veles, in Yugoslavia. Appar-

ently this panzer division had been held in reserve since the days of its breakthrough action in Yugoslavia.

There is no indication as to just when the envelopment decision was made; but the advance guard of the panzer division moved out on the afternoon of the 15th. The mass of the division did not move until the following day. As the advance guard approached the river, late on the 15th, it began to encounter scattered Greek units. Whether or not these units belonged to the Greek corps originally lined up with the British corps, or to the Greek army beginning to withdraw from Albania, is not recorded. In any event, the Greeks had suffered a great deal, chiefly from air attacks, and they had neither the equipment nor the desire to continue the fight. Accordingly, they caused the panzer units little trouble.

The mass of the panzer division came up on the 16th, and crossed the Aliakmon River over a ponton bridge erected without enemy interference (the regular bridge had been washed out by a flash flood a few days before). So far, the advance had gone satisfactorily. But at Grevana things began to look bad. From that point south, the roads were mere trails, not of enough importance to be shown on the maps. The corps commander called in the corps engineer, and together they studied the most important piece of information available to them: the airplane photos of the area. The trails south from Grevana could be traced on the photos, and the corps engineer delivered the opinion that, while it would be a near thing, the march could be made. Accordingly, the division was to push ahead.

The going was extremely difficult—far more so than anything else this division had ever encountered. The engineers did what they could to the bridges, and every man who could be spared from the wheel of a vehicle aided in widening and otherwise improving the trails.

Tractors and tanks were used to pull the trucks through the bad spots. Finally, after three nights and two days of toil, the forward elements of the division debouched from the mountains down onto the plain at Kalabaka. It was the morning of April 19th.

If this panzer division had been able to dash on over from Kalabaka and to seize Larissa from the hands of a surprised enemy, its mountain march would probably go down in the books. Unfortunately for the division, however, Larissa was already falling on this morning of April 19th—falling to the panzer division of the Korps Boehme.

The panzer division of the Korps Boehme, starting from Katerini on the 14th, had moved on Larissa in two columns: one by way of the Petras Pass to the west; and one by way of the Pandelemon and Tembi Passes to the south. At the same time, the mountain division that had occupied Veria was moving south, apparently across country, with the objective of passing Mt. Olympus to the west and continuing on to Larissa. It seems, further, that mountain troops, possibly from the same division, were attached to the panzer units moving over the Petras and Pandelemon Passes.

We have some information concerning the actions at the passes. At Petras and at Pandelemon, the Germans were stopped and were able to advance only after two days of hard fighting. Tembi Pass appears not to have been defended, but the Germans had trouble in getting their vehicles through it because of the demolitions effected by the British. However, the difficulties were overcome, and the column emerging from Tembi Pass occupied Larissa on the morning of April 19th. A few hours later the column that had moved by way of Petras Pass reached the city and still a little later the mountain troops came up. As we have seen, the envelop-

ing panzer division of the Korps Stumme had reached Kalabaka as Larissa was falling.

Meanwhile, the British had abandoned the Servia positions on the 18th and had succeeded in making good the withdrawal through Larissa. Serious pursuit of the withdrawing British could not be taken up until the 20th, not until after a bridge had been thrown across the Aliakmon north of Servia.

With the Larissa chapter closed it is in order to consider an important development arising out of that wide enveloping sweep of the panzer division of the Korps Stumme. It will be recalled that that division had run into Greek troops near Grevana, and had found those Greek troops not capable of serious resistance. The German High Command was quick to sense the significance of this, and quick to capitalize on it. The decision was to employ the motorized SS division, which we left in the Vevi Pass, against the Greeks.

Accordingly, on or about April 19th, the SS division was ordered to march on Janina, by way of the Zygoss Pass. The latter is a gateway over the Pindus Mountains which, it will be recalled, run lengthwise through Greece dividing the country up into two natural theaters of operation. The SS division reached Janina on the 19th without important incident. The net result of this simple march was to cut the line of communications of the Greek army fighting in Albania. At the time that army was falling back under steady Italian pressure. With the unrelenting pressure on its front and with a German force in its rear, the situation of the army became hopeless (even though the Italians had not yet reached Greek soil). The commanding general (Tsolakoglu) came to that conclusion, sent emissaries to the Germans and, on April 24th, surrendered his army. The SS division was then free to march south, west of the Pindus Mountains.

Their successful five-day defense of the passes north of Larissa enabled the British, as we have seen, to withdraw in good order to the south. The position chosen for the next delaying action was the pass of Thermopylæ, sixty miles south of Larissa. This particular pass consisted of a narrow plain with rugged mountains on the west and marshes and the sea on the east. A small river, the Spercheios, flows out of the mountains across the plain. Just south of the river are other mountains extending practically to the sea. The new British line ran along these other mountains and then, on the west, it bent south to the Gulf of Corinth. The line had considerable natural strength but it was vulnerable on either flank (on the east, by way of the Island of Euboea; on the west by way of the road along the Gulf of Corinth). The line was organized on the 20th (by New Zealanders), and was held against all assaults (most of them by mountain troops) until the evening of the 23d. During the night of April 23d-24th, the British withdrew to the Thebes-Chalcis line.

Meanwhile, the evacuation of British troops had begun. The evacuation from the small ports and "beaches" of Attica and the Peloponnesus, under the cover of the nights, is a story in itself, but not one germane to this account.

After the 24th, the sands ran out rapidly. On the 26th there was no longer a British "line" of any consequence. On the 26th German parachutists seized the Corinth Canal and thereby control of communications with the Peloponnesus. On the 27th Athens was occupied, and the Royal Navy, having already accomplished a remarkable job of evacuation, decided against further rescue operations. On the 28th German troops stood in the southern harbors of the Peloponnesus. The Balkan blitz was history.

The great and continuing lesson to be derived from all recent campaigns in Europe has to do with the vast changes wrought on the art of war by the gasoline motor. The Balkan Campaign contributes to this lesson by demonstrating that modern mobility may be carried through highly difficult terrain. The previous campaigns of the war have already shown how War-on-Roads may predominate over War-along-Fronts (although this is not to say that "fronts" may not again develop, given proper conditions). In one campaign after another, we have seen great issues decided by *columns*—that penetrate and encircle, rather than smash. In the Balkans, War-on-Roads was a necessity dictated by the terrain. The only alternative would have been a slow War-on-Foot, in which the roads would have been simple avenues of supply and evacuation rather than theaters of operation themselves.

The Balkan Campaign was another in which the *Luftwaffe* had things all its own way. This complete supremacy in the air facilitated every important move the Germans made. We have seen how the bombers disrupted the Serbian counterattacks and withdrawals, and how they escorted and supported the German columns winding through the passes. Every conclusion formed on the basis of data from this campaign (and from most other German campaigns) must take full cognizance of the one-sided situation in the air.

The campaign developed many instances of effective—in fact, vital—use of demolitions. "Dynamite," says a respected German authority, "is the greatest enemy of mechanized movement." Certainly the quotation comes close to stating the case as it exists in mountainous terrain.

There is a tendency to assume that all operations in a blitz campaign proceed at lightning tempo. This is not true. The Balkan Campaign was over in twenty days.

But, in it, powerful forces were often held up for two days or longer by obstacles defended by small, tough forces. The war as a whole went at lightning speed, but there was nothing lightning-like about the operations of the panzer division that came up to the Aliakmon River north of Serbia on April 14th.

This book has already devoted a good deal of space to descriptions of the tactics governing the operations of armored units. The Balkan Campaign offers several examples to substantiate conclusions already presented. Habitually, panzer divisions were let loose only against weak resistance. When an armored division ran into strong resistance, the "good old infantry" was sent up—as at Stracin Pass. And the good old infantry was always teamed with the equally good old field artillery and engineers.

The actions of the Nazi infantry battalion threatened by a tank attack on the lowlands below the Vevi Pass illustrate something of deepest interest to our own army—small units fighting tanks. There the foot troops prepared to receive the tanks with hand grenades, blocks of explosives, and other improvised means. It was their aim to attack the individual tanks of the enemy by getting close to them and taking advantage of their weaknesses—their limited vision and fields of fire, and the vulnerability of their tracks and other weak points. Even without antitank weapons, it is important to note, foot troops were far from helpless in the face of attacks by tanks.

The flexibility of German plans, and the accuracy with which the Germans estimate developments and act on them, also deserve remark. The operations of the motorized SS division illustrate the point. This division started out following a panzer division through the border passes. When a quick drive to the Monastir Gap was in order, the SS division was leapfrogged ahead

After the gap had been seized, the division pushed ahead, reducing the important Vevi Pass. It was then pulled aside while a panzer division took over the lead. Finally, when the experiences of the panzer division near Grevana indicated that the Greek resistance there was ebbing, the SS division was again committed, this time with decisive results as regards the Greek Army in Albania.

There is no information as to the types of maps used by either side during the campaign. But the wide enveloping movement of the armored division south of Grevana showed the unquestionable value of air photos. Without air photos, it is doubtful whether the march would have been undertaken at all.

The experiences of the panzer division at the Aliakmon River in front of Servia confirm the lessons of the Marne crossing of 1918. Blitzkrieg or not, ponton bridges can be neither constructed nor maintained under observed artillery fire.

The Germans appear to have the ability to estimate terrain accurately and realistically. The reference here is to the way in which German armored and motorized units have consistently traversed regions that have been considered by their foes to be more or less impassable (the Ardennes in Belgium, the mountains along the Serb-Bulgar border). The Germans have demonstrated that there is an enormous difference between terrain that is merely *difficult* to traverse and terrain that is *impossible* to traverse. The commanders of the armies opposed to the Germans have tended to conclude that difficult terrain is impossible terrain.

Once again, in the Balkans, the Germans failed to show up with any new weapon. What they did have, as usual, was tried and true weapons—and plenty of them. The Germans themselves (who have long been using

self-propelled "assault" artillery) speak with interest of a new British development: the AT gun on a self-propelled mount.

#### CHAPTER VIII

### PARACHUTES (AND PROPAGANDA) ON THE CORINTH CANAL

DURING the latter days of May, 1941, the BEF in Greece moved south under cover of delaying actions, heading for the "beaches" of Attica and the Peloponnesus. In this withdrawal the narrow Isthmus of Corinth which connects the Peloponnesus with the mainland together with the canal which cuts across the isthmus were of obvious strategic significance. This brings us to the critical morning of May 26th, at which time the fate of the BEF hung in the balance.

On that morning, after a terrific dive-bombing and strafing attack, the Germans dropped several hundred (the British say more than a thousand) parachute troops along both banks of the Corinth Canal. Within a few hours the parachutists had battered down the few hundred (the Germans say more than two thousand) British defenders, and had everything in the vicinity under control. This action was the first important use of parachute troops in almost a year, and in addition it was a curtain-raiser to the all-out descent on the island of Crete a few weeks later. Therefore the Corinth show is worthy of our attention even though we lack many details, and even though many of the details we do have derive from an account by a German Army reporter equipped with the massive title of *Propagandakompanie Berichterstatter*. In the interest of brevity, this gentleman's title is shortened throughout this account to the less imposing title of PK-man.

The way this PK-man got his story is itself interesting and illustrates the general system of war reporting along the German fronts. The reporter was there, a member of one of the jumping echelons. The only way he could be distinguished from the job-lot of *Fallschirmjäger* (which is German for parachute trooper) was by the fact that in addition to his submachine gun, he was armed with a fast-shuttered Leica, plus the aforementioned title.

The Ju52 (multi-motored transport plane) carrying our reporter's squad took off as dawn broke on the 26th (from Salonika?). The payload of the plane was the squad of twelve parachutists, this number including one Lieutenant A in command and, of course, the PK-man. The reporter, running true to the form of all PK-men, tells us that the morning was beautiful, the morale high, the countryside hilly and green, the motor noisy. The noisy motor prevented profitable conversation and left each man with his own thoughts. Possibly some of the thoughts turned to the standard witticism which the *Fallschirmjäger*, when they are on the ground, like to ascribe to their enemies the British (or their friends the Italians): "Lieutenant Y to his squad: 'When I give the command to jump, push the man in front of you.'" Possibly the old standby was not, under the circumstances, good for a laugh.

Our reporter mentions the fact that quarters in the Ju52 were very cramped. It was difficult for him to get a look out of a window, but when he did get a look what he saw most of was other Ju52's. There were scores of them, all traveling the same route. By the same token, the thing he saw the least of was British planes. There were none of them. As our particular plane reached the sea, fifteen minutes from the canal, our observer began to glimpse Ju52's flying in the other direction. Those

were planes that had dropped their loads and were heading home.

In due course our plane reached the objective: the Corinth Canal. It leveled out along a course parallel to the canal, flying very low (300 feet?) over the south bank. There was some British rifle and AA fire, but not enough to cause the attackers much concern, even at their low altitudes. Apparently the Stukas and the strafing Messerschmitts had done their work well. As a matter of fact, they were still operating in the vicinity (or, more probably, going through the motions of operating since by now British islands of resistance and German assault groups were intermingled over the terrain). In further due course, Lieutenant A shouted out the command to jump: *Absprung!* "in a tone of voice we'll never forget" —and jumped himself. The other eleven men, including Mr. PK, rapidly followed suit. The technique employed in quitting the plane involved ". . . placing the left foot in the door, giving a firm outward push, and flinging the arms into the air. . ." Whether or not the outward push was to be by the man just in rear is not disclosed.

In British accounts of the Corinth jumps, there is speculation on the point of the very low altitudes from which the jumps were made. There is mention of an "explosive device" which literally blasted the parachute open as it left the plane.

The normal German practice in a parachute operation is to provide one plane carrying equipment to each two planes carrying personnel. The men are normally dropped with a minimum of personal equipment, and their first vital task is to get to the equipment containers. In our PK account, however, there is no mention of any scramble on the ground for equipment containers. Possibly such scramble was a technical detail overlooked by Mr. PK, or even one in which he was ordered not to

participate. After all, his job was to preserve the Corinth operation for posterity—and only incidentally for this book.

Actually, Mr. PK landed in a pit, amidst a lot of rocks. He was sorry about the rocks, but pleased about the pit inasmuch as bullets soon began to whistle overhead. As soon as he came to rest among the rocks, he cut loose from his 'chute and checked over his weapon and his Leica—giving the latter, he admits, second-priority attention. Then he took stock of things in order to get oriented prior to setting out for his squad assembly point. Apparently he had no map, but he was able to make out the knoll that had been predesignated as the assembly point. As Mr. PK crawled out of his pit he obliged us by looking skyward and noticing that the air was still swarming with German planes (exclusively). Waves of Ju52's continued to disgorge parachutists, and dive-bombers and Messerschmitts continued to go through the motions of attacking ground targets.

Mr. PK uses up many adjectives to describe the approach to the assembly point. It all seems to boil down to this: There was a great deal of shooting going on all over the place. But by whom, at whom, and from where was not discernible, not to Mr. PK, anyway. Actually, the Germans had assembled into platoons, or even companies, and were engaged in systematically reducing the individual nests of resistance. The British were not numerous, but most of them were New Zealanders and they were tough. The hand grenade was the most effective weapon. The Germans were taking heavy losses, but all the time more of them continued to fall from the sky.

Finally the assembly of the squad in which we are interested was effected. Lieutenant A—he who had shouted "*Absprung!*" in the unforgettable tone—then led the way "by bounds from cover to cover" to the company assembly point. There the medicos who had

begun dropping with the first echelons, had set up an aid station, this extraneous note being inserted here in the interests of a point arising later in our story. Meanwhile, the zealous Mr. PK inspected the casualties. He states that the types of wounds showed the kind of close combat which had been and still was in progress.

The mission of the parachute attack had been to establish a bridgehead on the south side of the canal, and incidentally to occupy Corinth and seize intact the bridge over the canal. His nose for news now in fine form, our PK-man therefore decided to bound bridge-wards. Making his way toward the bridge, he passed many casualties and noticed other evidences of hard fighting. As a matter of fact, the area around the bridge had been the scene of the hardest fighting of the entire operation. However, the immediate question was this: Had the fighting been successful? Had the bridge been taken? Mr. PK assumed that it had, possibly because he had been able to catch a glimpse of it a few moments ago.

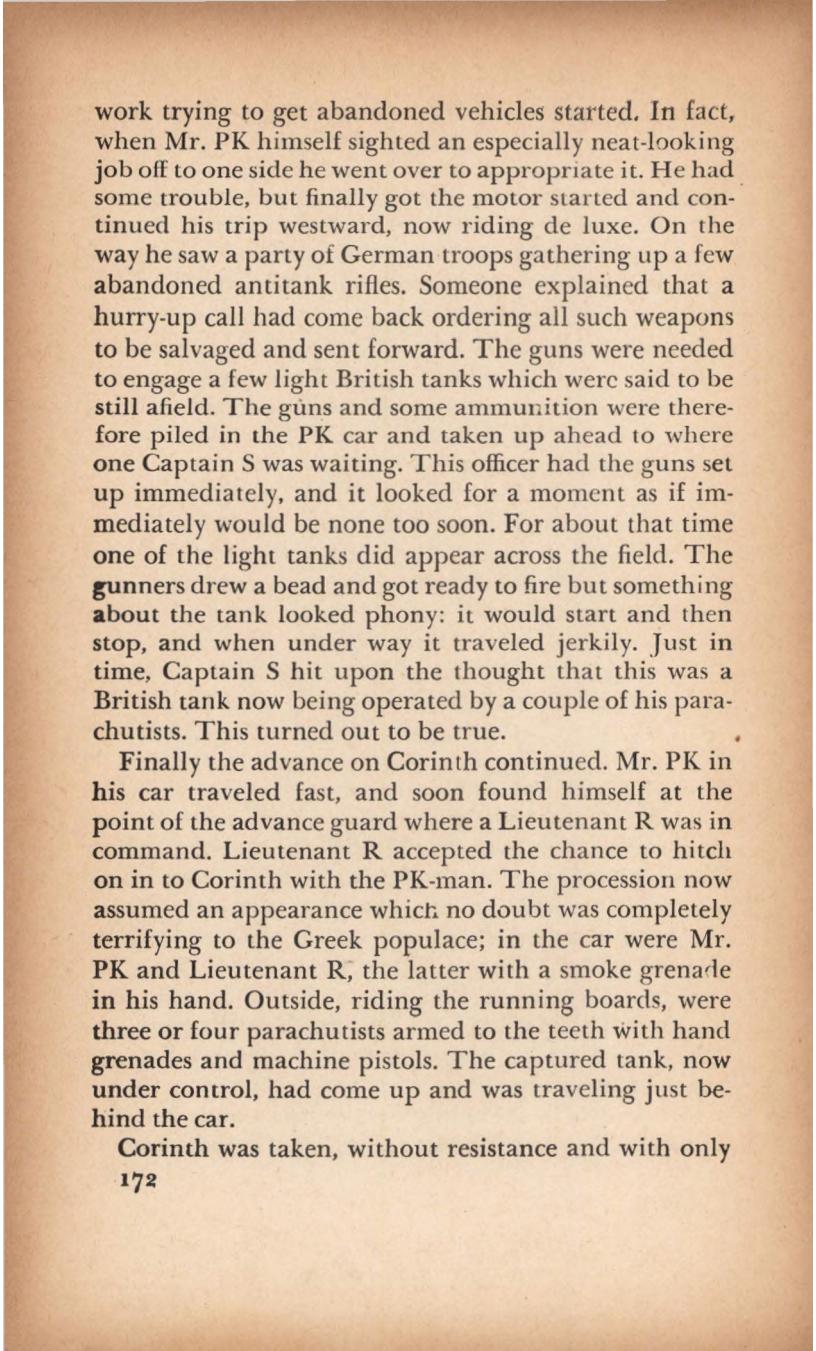
About this time a tremendous explosion resolved the point in question. The explosion could have been nothing other than the bridge being blown into the air. Mr. PK could not believe his ears, so he started next for a nearby knoll which he figured would give his eyes a chance. En route he encountered one Lieutenant P, whose black collar tabs showed him to be of the German *Pionierkorps*. Lieutenant P was driving a captured British passenger car (illustrating the manner in which the parachutists habitually outfitted themselves with transportation). He stopped, and asked Mr. PK where in hell is the aid station (illustrating the fact that in the early stages of a parachute operation, no one knows where anything is). No one, that is, except Mr. PK, who happened as noted several paragraphs above to know where the aid station was. So he hopped on the running board and gave directions. There followed a wild ride.

During this wild ride, Lieutenant P came through with the story of the bridge. It developed that he was in charge of a unit of para-engineers which had been dropped the very first thing with the mission of seizing the bridge and removing any explosives placed thereon by the British. The bridge had been found to be well-guarded, but the engineers had finally been able to get up to it. They found it elaborately prepared for demolition and wondered at the failure of the British guards to pull the switch. Even as they wondered, they set about tearing up the fuse-wires and removing the charges. They congratulated themselves on one more bridge taken intact, this a highly important one.

Meanwhile, British resistance near the bridge had decreased almost to the vanishing point—except that occasionally a stray round of artillery fell in the vicinity. One such stray round turned out to have had an important number on it: it hit near a charge that had not yet been removed and that was apparently still primed. That charge and all the others still in place naturally went up. And so did the bridge, and so did all the German engineers in the vicinity. That was why Lieutenant P was hunting the aid station: he wanted a doctor to bring back to those of his men who were only wounded.

Our PK-man rode the running board up to the aid station and then back down to the site of the ex-bridge. He noticed German parachutists at work mopping-up the far bank, and decided that the center of gravity of the news now had shifted toward the town of Corinth, five miles to the west. It will be remembered that a secondary mission of the para-operation was the capture of Corinth. Therefore Mr. PK (and apparently Lieutenant P and his few remaining able-bodied engineers) started up the Corinth road.

Much débris, including many trucks and cars, was strewn along the road. Here and there Germans were at



work trying to get abandoned vehicles started. In fact, when Mr. PK himself sighted an especially neat-looking job off to one side he went over to appropriate it. He had some trouble, but finally got the motor started and continued his trip westward, now riding de luxe. On the way he saw a party of German troops gathering up a few abandoned antitank rifles. Someone explained that a hurry-up call had come back ordering all such weapons to be salvaged and sent forward. The guns were needed to engage a few light British tanks which were said to be still afield. The guns and some ammunition were therefore piled in the PK car and taken up ahead to where one Captain S was waiting. This officer had the guns set up immediately, and it looked for a moment as if immediately would be none too soon. For about that time one of the light tanks did appear across the field. The gunners drew a bead and got ready to fire but something about the tank looked phony: it would start and then stop, and when under way it traveled jerkily. Just in time, Captain S hit upon the thought that this was a British tank now being operated by a couple of his parachutists. This turned out to be true.

Finally the advance on Corinth continued. Mr. PK in his car traveled fast, and soon found himself at the point of the advance guard where a Lieutenant R was in command. Lieutenant R accepted the chance to hitch on in to Corinth with the PK-man. The procession now assumed an appearance which no doubt was completely terrifying to the Greek populace; in the car were Mr. PK and Lieutenant R, the latter with a smoke grenade in his hand. Outside, riding the running boards, were three or four parachutists armed to the teeth with hand grenades and machine pistols. The captured tank, now under control, had come up and was traveling just behind the car.

Corinth was taken, without resistance and with only

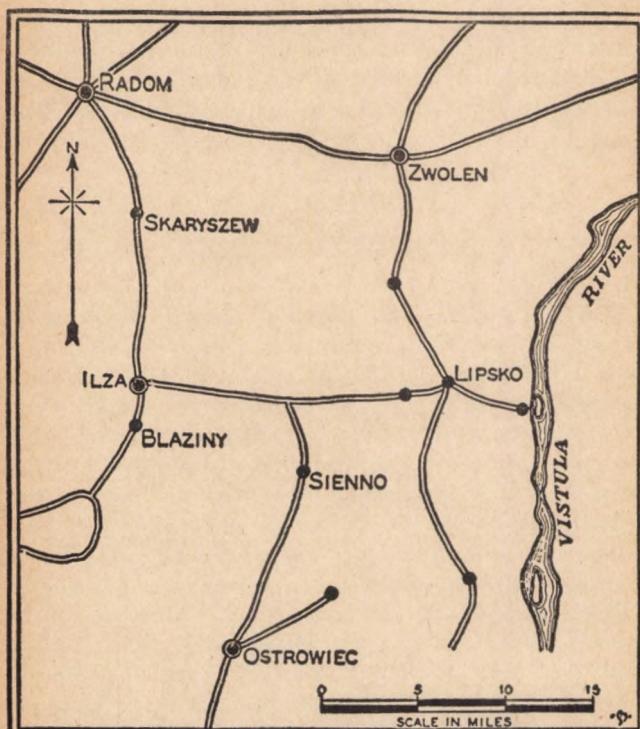
one noteworthy incident, included here as an example of the careful timing that always characterizes the committing to combat of the elements of the German combat team. It seems that just as the advance guard of the parachutists entered the town from one side, on the other side there landed a plane and from it there stepped, in the nick of time, an interpreter. German thoroughness had covered all the angles—even down to relieving the *bürgermeister* of his keys in his own language.

## CHAPTER IX TROUBLE AT ILZA

*BACKGROUND. The German Tenth Army (von Reichenau), with a mission no less comprehensive than destruction of the main Polish army, crossed the border opposite Oppeln at 5:30 A.M., September 1, 1939. Within a few days, the line of the Warta had been turned, and the Polish divisions were in precipitous flight toward the Vistula. The problem was to cut off this retreat. And to that end, panzer divisions poured through the gaps and pushed ahead, far into enemy territory. Ordinary infantry divisions, making remarkable forced marches, followed close behind, consolidating the thin lines established by the armored units. By September 8 the Polish army had been gesprengt (blasted). Four divisions of that army were near Radom, seeking desperately to break through the thin armored cordon that stood between them and the safety of the Vistula. Meanwhile, German infantry divisions were approaching from the south. It was a race against time.*

ANYONE who thinks of the Polish Campaign—"the campaign of the eighteen days"—as an unbroken series of

precisely coördinated and uniformly successful German operations should consider the case of the colonel whose simple reconnaissance mission turned into a brush with the main Polish forces.



Map 15: The area Ostrowiec-Radom

This colonel commanded (and the past tense is used advisedly, since in this action he died, pistol in hand) a motorized cavalry regiment, reinforced. Full details of the organization and equipment of his command are not

available. But the elements pertinent to this account consisted of a motorcycle battalion (three companies), a battalion (five companies), a detachment of field artillery, a detachment of AA artillery, and a platoon of light tanks. All units were completely motorized.

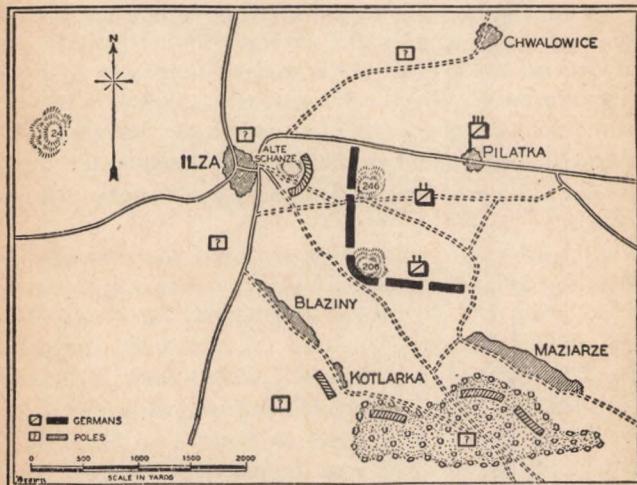
The general situation arose on September 8th, and may be traced on map 15. The division was marching north over the route Ostrowiec—Sienno—CR four miles north of Sienno—Lipisko—Zwolen. The cavalry regiment was out in front reconnoitering. The leading element of the regiment—the motorcycle battalion—had moved out the night before, and by 6:30 A.M. of this date (September 8th) it was approaching Lipisko. At this point, the commander of the motorcycle battalion received an order from the regimental commander, and the day's chain of special situations was thereby put in motion.

The order just mentioned required the motorcycle battalion to take up at once a position guarding against attack from the northwest, north, and northeast. An hour later, the battalion was: (1) reinforced through the attachment of a battery of field artillery; (2) made the advance guard of the regiment; and (3) ordered to reverse its direction of march and move on Skaryszew by way of Ilza. At 11:00 A.M. the march toward Ilza was under way, and the battalion commander was at the CR north of Sienno hearing the regimental commander explain that the new plan was to intercept the retreating Poles just east of Radom.

Reference now should be made to map 16. At 11:50 A.M., as the leading element of the motorcycle battalion (the 6th Company) emerged from Pilatka, it received weak fire from the "Alte Schanze," a low hill just east of Ilza. At the same time, an enemy column was observed moving eastward on the road Ilza—Chwalowice. The

day was hot, there was no wind, and the land was dry. Thus the slightest movement of vehicles on the dirt roads betrayed itself through clouds of thick dust. The battalion commander made his decision on the spot. The moving column to the north would be taken under artillery and machine-gun fire, while the 6th Company proceeded to brush aside resistance on the Alte Schanze.

The 6th Company, in fact, was already well along



Map 16: The situation at Ilza

toward the accomplishment of its special mission. Immediately on receiving fire, the company had abandoned its motorcycles (piling them into the ditches at either side of the road) and had moved to the attack. After advancing a few hundred yards, however, the attackers were brought to a halt by machine-gun and rifle fire which had greatly increased in intensity. The attackers began to dig in.

Meanwhile, and before the incident at the Alte Schanze, the regimental commander had decided to occupy Hill 241 to the west of Ilza, thinking thus to secure the march against attacks from the south and southwest. To this end he had detached one company (the 2d) from the main body, and had sent it toward Hill 241 by the unimproved road south of the road Pilatka—Ilza. He had then driven forward to Pilatka, there to find the lively action described above in progress. It was apparent at once that the 2d Company would never be able to reach Hill 241. It was also apparent that the motorcycle detachment was in for a tough fight. Accordingly, the regimental commander ordered (by radio?) the 2d Company attached to the motorcycle battalion for the purpose of engaging in a coöordinated attack on the enemy positions. It was now almost 1:00 P.M., and in the meantime the situation had been personally reconnoitered by the division commander (who had contributed the observation that the resistance appeared weak to him, and shouldn't cause much delay).

Shortly after 1:00 P.M., the coöordinated attack got under way: the 6th Company was to resume its advance against the Alte Schanze; the 2d Company was to envelop the enemy south flank; and one platoon of the 5th Company was to occupy Hill 246 in order to cover the interval between the 6th and 5th Companies. The regimental CP was established in a house near the western exit of Pilatka.

At 2:40 P.M. the regimental commander was considering two reports. One from the 2d Company reported the movement of an enemy column southward through Blaziny at 1:15 P.M. The other, from the commander of the motorcycle battalion, reported the failure of the new attack, and contained a recommendation that the rest of the regiment be employed to retrieve the situation. The regimental commander took stock of the circumstances.

The motorcycle battalion, plus its attached company (the 2d) was engaged, not able to advance; one machine-gun company (the 8th) was engaged, supporting the attack; his artillery detachment was engaged, supporting the attack and firing on targets of opportunity; the rest of the provisional battalion [1st, 3d, and 4th (MG) Companies], and platoon of tanks, was halted under cover east of Pilatka. He decided to use the rest of the provisional battalion in a further effort to envelop the enemy south flank.

The commander of the provisional battalion received his orders near the eastern exit of Pilatka at 3:00 P.M. He was to entruck his three companies at once and move against the enemy south flank over the route: RJ east of Pilatka—western exit of Maziarze—Kotlarka—Blaziny. He decided to provide against contingencies by occupying Hill 206 with his machine-gun company (the 4th).

The provisional battalion moved out in the order: 1st Company, 4th Company, 3d Company. The 1st Company sent out a point (which it followed at short interval), but thought it unnecessary to reconnoiter far in advance. This thought turned out to be highly convenient to the enemy, who happened to be occupying the woods southeast of Kotlarka in considerable strength. The battalion commander had decided to observe the progress of the movement from Hill 206.

By shortly after 4:00 P.M., the 1st Company had reached the eastern exit of Blaziny, where it halted in order to reconnoiter the route through the settlement. Meanwhile, all had not been going according to plan. The 4th Company had not received its orders, or had not construed them properly, and had kept its place in the column instead of branching off to occupy Hill 206. The 3d Company was bringing up the rear.

At this point (4:20 P.M., eastern edge of Blaziny) there suddenly burst on the halted 1st Company a terrific fire.

It included both artillery and machine-gun fire, the latter coming from the northern edge of the woods to the southeast. Simultaneously, the column was attacked along the streets of Blaziny by four armored cars which it later developed were protecting a Polish regimental staff that had established itself in the vicinity. The 1st Company abandoned its vehicles, sought refuge under cover of ditches and buildings, and went into a hot fight for its very life.

The 4th Company (which should have been on Hill 206 by this time) fared about the same as the 1st Company. It lay along the southern edge of Kotlarka engaged in the desperate fight. The 3d Company was approaching Maziarze when the firing began. It detrucked immediately and continued the advance on foot. But just south of the western exit of Maziarze, the company was taken under heavy machine-gun fire from the woods to the southeast, and was quickly pinned to the ground. There was a gap about one mile wide between the 4th and 3d Companies.

As the enveloping movement to the south was coming to this abrupt end, things were going only a little better for the motorcycle battalion. On the northern front, the attempt to carry the positions on the Alte Schanze had been held up pending a heavy bombardment of the positions by the attached artillery. Under this bombardment the Poles had begun a withdrawal. But when the 6th Company attempted to follow up the withdrawal the Poles stiffened and again the advance was halted almost in its tracks. During this last advance the company commander was killed.

At 5:30 P.M., the regimental commander completed a personal reconnaissance of the situation, and ordered one final attack on the Alte Schanze. The attack was launched, but once more it bogged down, this time when within about 800 yards of the objective.

By now it was 7:00 P.M. and almost dark. As he saw his final attempt to take the Alte Schanze fail, the regimental commander made his decision—to assume the defensive immediately on the arrival of darkness. The line to be defended ran along the forward slope of Hill 246, bent around Hill 206, and continued to the east. One battery of AA artillery was assigned to direct support of the motorcycle battalion, the other battery to direct support of the other battalion. The single company not yet committed to action (the 7th) was still kept in reserve, southwest of Pilatka.

We can assume that the front-line companies all withdrew to their assigned defensive positions without incident—or at least without disastrous incident. And probably the regimental commander then decided that the crisis was over—at least for this day. But along about 8:30 P.M. there broke the most violent attack of all. It came directly along the road Ilza—Pilatka. The Polish infantry stumbled forward in the dark, in large numbers, heavily supported by artillery, tanks, and flame-throwers. It was the last desperate bid for escape from the trap which by morning would be irretrievably sprung.

The night attack surged forward, bending the German line back toward Pilatka. The regimental command post was in imminent danger of capture. So critical did the situation appear to our colonel that he rounded up his headquarters personnel: clerks, messengers, buglers, chauffeurs, and all. He rounded them up, put rifles in their hands, and sent them into the line. He, himself, set the example. And after having a rifle shot from his hands he continued to fire with his pistol until mortally wounded.

But the Polish attack could not maintain its momentum, and in the dark became disorganized. The 7th Company, until now held in reserve, delivered a coun-

terattack, and finally the platoon of tanks was sent in to complete the demoralization of the Poles. The attempt to break out was thus repulsed—and within a few days four Polish divisions, comprising over 60,000 officers and men, had laid down their arms.

#### CHAPTER X

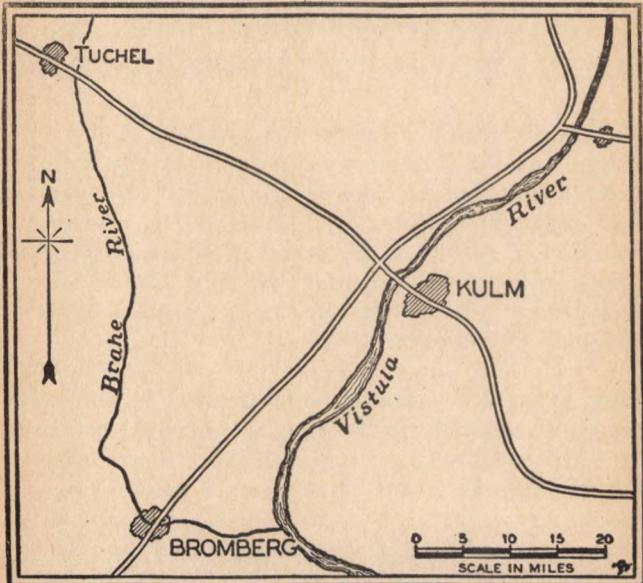
#### ARTILLERY BATTALION IN DISTRESS

*BACKGROUND. The German Fourth Army (von Kluge) had the mission of wiping out the Polish Corridor. Within five days, by September 5th, this mission had been accomplished, and the army had crossed the Vistula and turned south toward Modlin and Warsaw. The sealing of the Corridor had involved no serious engagement, but had resulted in the capture of many prisoners and much matériel.*

THE ARTILLERY BATTALION that figured in the night march with which this account is concerned had been attached to an infantry regiment since the crossing of the Pomeranian border on September 1st. On this particular day—September 3d—the regiment had crossed the Brahe (unopposed) and was pushing ahead rapidly (and as it turned out, recklessly) with the mission of securing a bridgehead over the Vistula. One battalion of the regiment (the 3d), with one battery of the artillery battalion (the 3d) attached, was moving along the main Tuchel-Kulm highway, mopping up resistance as it went (map 17). The rest of the regiment, with the rest of our artillery battalion, was moving along a net of country roads just north of the main highway, and encountering little or no resistance, was moving with fair speed.

By noon the artillery battalion (less 3d Battery) had

halted just east of the village of Eichenhorst (map 18). The regimental staff and various detachments from the regiment were halted nearby. The afternoon was devoted largely to mopping up snipers who were firing from the buildings in the village. For the largest and most important building of the village, the home of the

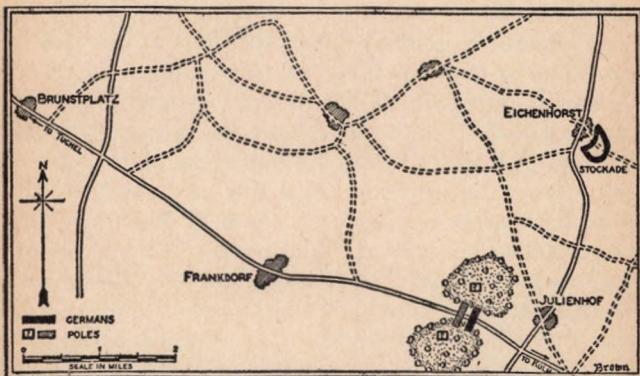


Map 17: The area Tuchel-Kulm

local squire, this mopping-up operation took the interesting form of bringing up two field pieces, and blasting away at 200 yards range. The building burst into flames, and later that night these flames provided the light by which the order sending the battalion off on its weird night march was read.

During the evening vague reports of enemy activity

came in. One of these mentioned a large Polish force, partly motorized, which was believed to be marching south in an effort to escape from the Corridor. Another report intimated that strong Polish forces were marching from the east, with the mission of holding the line of the Vistula. Our battalion's response to these reports was to bivouac in the manner of a covered-wagon train: by forming a stockade of the vehicles. The vehicles were formed in a semi-circle based on the eastern edge



Map 18: The situation at noon

of the village. The guns were trained on critical points of the terrain several hundred yards away, and searchlights were set up in positions to illuminate the fields of fire. Outguards were posted, the officer of the day began his rounds, and the cannoneers went soundly to sleep.

At 9:00 P.M. our battalion commander, Captain M, was summoned to regimental HQ, there to receive the order which brought on his night's adventures. The division had apparently become over-extended (proving that German divisions do become over-extended), and

the regiment was to withdraw immediately to a bivouac area near Brunstplatz, eight miles to the west. Captain M received this news without enthusiasm, since it meant breaking up the stockade and retracing a rough and winding route through the villages and over the country roads which he had negotiated only that morning. However, he was consoled by the thought that within a couple of hours he would be resting in a secure bivouac at Brunstplatz. And he might have been, at that, had he resisted the advice of one whom we may call Lieutenant X.

Lieutenant X entered the picture just as Captain M was bending over his map, checking up on the route back to Brunstplatz. At this point Lieutenant X (who was not an officer of the battalion) was brought forward with the explanation that he had some very late and very special information regarding the roads to the west. It developed that Lieutenant X had only just arrived from the west, and had traveled over the route Brunstplatz—CR just south of Julienhof—Eichenhorst. He reported this route to be free of enemy and, in fact, free of obstructions of all kinds. So Captain M decided to make the move to Brunstplatz over the new route, thus taking advantage of the main highway, and at the same time avoiding the winding débris-laden roads to the north. In the flickering light of the burning mansion he gave his orders. It will probably be some time before Captain M again gives orders based on the road reconnaissance of a Lieutenant X.

By 10:30 P.M. the battalion rolled out (the one-and-a-half-hour gap between 9:00 and 10:30 P.M. proving that German units do not get under way in nothing flat). Captain M was at the head of the column, and behind him it stretched out in the order: battalion staff, signal platoon, 1st Battery. Apparently, at this time there was neither an advance guard nor a rear guard. The desig-

nated speed was five miles per hour, the interval "as close as possible." There were no lights, but there was an almost full moon. Within a few minutes, the head of the column passed a village proclaimed by the roadside sign to be Plewno. This gave the adjutant occasion to remark that from now on Plewno is Julienhof. (This illustrates the difficulties encountered by one who attempts to follow a German account of operations in Poland on a Polish map.) At this point a motorcycle messenger was sent ahead to mark the CR at which the column would turn west onto the main highway. In due course the head of the column arrived at this CR, and made the turn. Captain M folded his map and relaxed in the thought that Brunstplatz now was only six miles away, over a broad and smooth highway.

The first indication that a hitch might develop in the plans of Captain M came a few hundred yards west of the CR. There the column ran into the rear of an abandoned train which appeared to consist of refugee wagons interspersed with military vehicles. It was concluded that this must represent the results of a dive-bomber attack on a military convoy caught while trying to pass through a refugee column. In any event, the road was littered with débris, and in places almost blocked by wrecked vehicles and dead horses. Our battalion worked its way forward at a slow pace. Captain M consulted his map with a view to making sure he had taken the right turn; and at this point he no doubt gave vent to some sour reflections regarding the reliability of Lieutenant X. Sour as they were, these reflections were probably sweeter than any other thoughts Captain M bestowed on Lieutenant X for the rest of the night.

The column continued to move slowly through the abandoned train, halting now and then while motorcyclists went ahead and pushed dead horses or wrecked vehicles aside. Presently the situation improved, and

it was almost possible to resume the old speed of five miles per hour. At about this time, and about one-half mile west of the CR, the road entered a wooded area.

The head of the column had hardly entered the woods when it was confronted with a thorough-going road block consisting of wrecked vehicles placed across the road. Again the motorcyclists went ahead and again the column came to a halt. This, apparently, was the signal for which the enemy was waiting. Fire burst out from the woods to the front, and from both sides. The cannoneers came piling out of their vehicles. Kneeling and lying under and against the vehicles they began firing wildly into the woods. Up ahead, one of the motorcyclists in an act of daring reached up, tore the blinder from his headlight, and played the beam up and down the edge of the woods. Soon the light was shot out, and casualties began to occur.

Over the din, down the column, passed a shouted command from Captain M: "Machine-gun truck of 1st Battery to the front!" Soon was heard the roar of a motor, and the noise of the half-track truck making its way forward. Within a few minutes, the guns of the truck were in action. Meanwhile, the adjutant was carrying another order down the line: "Battery commanders to the front!"

Arrived at the head of the column, the battery commanders and Captain M apparently engaged in a discussion. One battery commander, remarking that through four years of the World War he had had no experience like this, advocated holding on until daybreak. The other battery commander favored an attempt to break on through tonight. Meanwhile, Captain M, observing white flares bursting to the west, concluded that the battalion had stumbled against the rear of a Polish force which was being attacked on its front by the 3d Battalion of the infantry regiment. After this deduction, he

came to a decision which, according to the historian of this action, took the breath away from the battery commanders: The battalion will reverse its direction of march, return to Eichenhorst, and from there march on to Brunstplatz over the route traveled yesterday. "Yesterday" was used advisedly; it now was 1:00 A.M.

The operation of turning the column around was a critical one. It was accomplished through using a small clearing to the south of the road as a turn-around area. The head of the column led out, and in due course the column was again on the highway, facing east. Everybody considered it a big break that the vehicles were not attacked vigorously as they swung out into the moonlit clearing. As a matter of fact, by this time the firing had become desultory.

During the process of reversing direction of march, several significant changes in the details of the column had been made. The commander of the signal platoon had been given the machine-gun truck and several radios, and had been constituted the rear guard. A motorcycle detachment was formed and sent out ahead as an advance guard. Finally, the machine-gun truck of the 2d Battery was brought forward and placed in column immediately behind the car of the battalion commander.

The head of the column reached the CR and turned north. Again it looked as if the worst was over when, roaring up from the rear, came a motorcycle messenger. His message: "The 2d Battery has lost contact" had hardly been delivered when new sounds of small-arms firing could be heard coming from a point west of the CR—the location of the 2d Battery. The adjutant climbed on a motorcycle and headed for the rear to investigate. His departure was punctuated by louder sounds—the field guns were in action.

For two hours the fight continued. The Poles had em-

placed mortars alongside the road, and these were the targets of the field guns. The guns were firing at point-blank ranges. But as dawn approached the firing subsided, and finally the column was able to resume its march toward Eichenhorst which was still smoldering as the column reached it and turned west.

Apparently, the battalion suffered no further untoward incident as it rolled slowly through the villages and along the roads to the north of the highway. At 4:30 A.M. the battalion was in Brunstplatz, burying its dead, delivering its prisoners, and resuming its rest. Captain M was very weary, and it is not recorded whether he devoted his first free minutes to looking up Lieutenant X and thanking him for his tip.

## CHAPTER XI

### TANK ACTION SOUTH OF KUTNO

*BACKGROUND. The panzer divisions on the left of Reichenau's 10th Army poured through the gap which opened when on September 6, 1939, the Polish Silesian army retreated in two groups; one moving northeast toward Lodz; the other east toward the Lysa Gora hills. On the evening of September 8th, the panzer divisions had reached the outskirts of Warsaw, but had failed to capture the city. Meanwhile, the main Polish armies were attempting to avoid the encirclement which threatened them, and to that end were attacking desperately. On September 10th, elements of the German 8th Army (Blaskowitz), facing north toward the Bzura near Leczyca, were in an especially critical situation. Elements of the 10th Army, including the panzer divisions, had been diverted from Warsaw to the relief of the 8th Army.*

ANY GERMAN UNIT which ran up against Polish forces attempting to escape the annihilation-envelopments has occasion to remember the experience. For example, there was the case of the 2d Company of tanks in one of the panzer divisions of von Reichenau's 10th Army. It was September 10th; two days before, Warsaw had been all but captured following that lightning thrust up from the Silesian border; but now, the crisis in the Battles of the Bzura was impending, and all available units of the 10th Army had been shifted from Warsaw to the west, there to relieve the pressure on other German forces, and to complete the ring around the main Polish armies.

Sometime during this day (September 10th), the 2d Company received orders attaching it to a regiment of infantry. Therewith, the company rolled out on the road leading northwest toward Ozorkow (map 19). The road was crowded with traffic moving in the opposite direction—traffic consisting largely of casualties being evacuated to the rear. The tanks moved along slowly; but, finally, at some point southeast of Ozorkow, rendezvous with the infantry regiment was effected. (Throughout this account there will often be uncertainty as to times-of-day; but, probably this rendezvous occurred about noon.) The commander of the tank company (who also is the historian of this incident) had consulted his map, anticipated his probable mission, and already was viewing with apprehension the mile-wide belt of swamp-bottoms through which the Bzura flows near Leczyca.

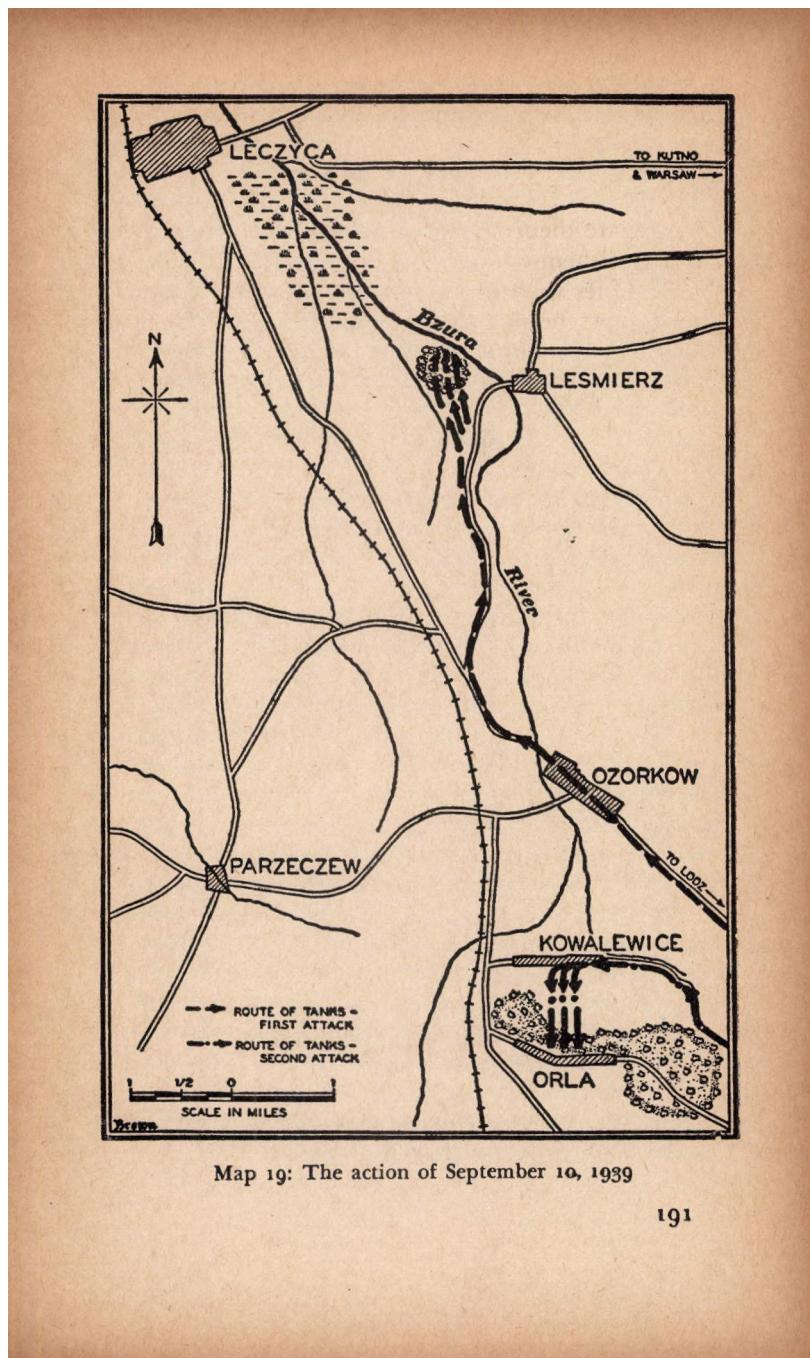
Following the rendezvous, the regiment, with the tank company attached, moved out toward Ozorkow. Details of the march column are not available; but, out in front, reconnaissance units were operating over the road to Leczyca. Alongside the road, the bursting of enemy artillery shells and the firing of friendly bat-

teries provided evidence of the stern fight that was in the making. Just south of Ozorkow the column halted, and the regimental commander, who had just returned from the division CP, issued his order. The regiment was to attack astride the road, and was to drive the enemy back beyond the Bzura. The tank company was constituted the spearhead of the attack, and was to blast the way for the 2d Battalion. It appears that the mission of the tank company was simply one of support, there being no rigid attachment of tanks to infantry battalions. The objective of the tank attack was clearly stated: the northern edge of the woods one-half mile northwest of Lesmierz. This clear defining of the objective turned out to be an item of some significance a little later on.

The attack was timed to begin as soon as the units could reach the lines of departure, north of Ozorkow. As the infantry battalions moved up past the tanks, the crews of the latter began preparing for action. According to their historian, they were consumed with a lust for the coming action. They stripped off their black jackets, rolled up their sleeves, unbuttoned their shirts, and jammed their caps down over their ears.

As soon as the 2d Battalion had moved past, en route to its assembly area, the tanks got under way. They rolled through Ozorkow and took cover behind some large straw stacks just to the rear of the line of departure. During the movement, enemy artillery fire had continued, and had been supplemented by machine-gun fire. In the assembly area, the tank commander used the few minutes available to review the situation with a nearby infantry company commander, and to hold a last-minute conference with his own platoon commanders.

Soon (about 3:00 P.M.?) came the order—by radio—to attack. The tanks moved out “in a broad front,” followed by the infantry. The enemy fire, artillery and



machine-gun, had become violent. The tanks concentrated their fire on the straw stacks and the straw-thatched houses from the cover of which the Poles were firing. The idea was to set these structures ablaze, and so to cause the enemy to evacuate them. It is recorded that within ten minutes most of them were ablaze.

Apparently the tank commander was able to control his platoons by radio. At one point, he caused the tanks to assemble in a cornfield, while the infantry caught up. Finally, the company assembled at the objective—the woods northwest of Lesmierz. In due course, the infantry arrived—and about that time dusk began to fall. The woods were under heavy fire. Our commander gathered his platoons closer together.

With darkness coming on, a delicate situation arose between the tank commander and the infantry commander whose advance the tanks had supported. It appears that the infantry were all for pushing on "under cover of darkness." The tank commander had other ideas regarding the usefulness of darkness as cover for an advance against a strong enemy over unfamiliar terrain. Perhaps he was thinking of that belt of swampland near Leczyca; moreover, he had gained the impression that the infantry battalion was not in contact with friendly units on either right or left. Whatever discussion there may have been was cut short by our tank commander pointing out that his mission had involved nothing more than reaching the woods where everyone now was talking. Having accomplished his mission, he proposed moving his tanks back to the assembly area north of Ozorkow. The most that the infantry could do was to get him to stay with them for another thirty minutes. When the time was up, he formed his tanks in a close formation and made his way back over the burning, dimly-lighted fields. One tank had become a casualty, and had been left in the woods.

During the night (September 10th-11th), the fact that the 2d Battalion had outstripped its neighbors was confirmed: The battalion had penetrated three miles into the enemy lines, and had put itself in danger of isolation. The infantry, which had proposed using the darkness as a cover under which to advance, now used that same darkness to cover a withdrawal to the assembly areas north of Ozorkow. Meanwhile, the tank commander had established radio contact with the regiment, and had made arrangements for the supply of fuel, ammunition, and rations. The tank crews worked through the night, refueling and repairing; and by morning everything was shipshape for further action (but this time, there is no mention of lust for combat).

Throughout the night, enemy activity continued to increase. Our tank commander, watching the white flares (indicating German front lines), concluded that an enemy envelopment from the left was in progress. The regimental commander came to the same conclusion—definitely so after his command post received a shower of Polish hand grenades. Early on the morning of September 11th, and in the face of the threatened envelopment, the regiment withdrew south of Ozorkow. The tank company reverted to the control of its own battalion, and moved to an area three miles southwest of Ozorkow. Thus ended the joint tank-infantry operation; but, for our company, a busy day was still ahead.

At 7:00 A.M. on September 11th, the situation stood roughly as follows: the enemy had advanced from Leczyca to the south, passing just to the west of Ozorkow. The 2d Tank Company, assembled in a woods three miles southeast of Ozorkow, could hear enemy batteries firing from the left rear. The last unit of the division—the antitank battalion—had been committed to action, and had engaged the enemy near Orla. The AT battalion had been forced to withdraw to the east

through that village, with heavy losses, and was still in a difficult position.

In this situation, the tank company was given the mission of relieving the pressure on the antitank battalion by an attack on the enemy in and near Orla. Time was of the essence, and within a few minutes the tanks were clattering east, through the village of Kowalewice. In the village, the column executed what must have been a sort of left front into line, and, at highest speed, the tanks advanced across the fields which lay between Kowalewice and the woods immediately north of Orla. The advance was met by a hail of fire which came from "the trees, the ground, the right, the left, and the front." However, within a very few minutes (the distance was less than one mile), the tanks had reached the northern edge of the woods.

The woods themselves presented a new problem. It developed that the ground in general was soft, and that the tanks could be supported only on a few trails which traversed the woods. In the process of confirming that fact, one tank bogged down and had to be left behind.

In the chapter "Artillery Battalion in Distress," we followed the sad experiences of a commander who believed everything he heard. In the case at hand, we get a glimpse of the danger which may develop when a commander believes everything he sees. It happened as the tanks were making their way along the trails through the woods. The commander, observing to the front, saw a German soldier (or, strictly speaking, a soldier in German uniform) crossing over the road at the far edge of the woods, near Orla. He concluded that the village itself must be in German hands. He radioed the good news to his platoons and (he records this ruefully) ordered them to advance into the village without firing.

As the reader will have deduced, he had fallen for a

hoax. As his tanks entered the village they were met with a terrific barrage of antitank fire. There followed a "murderous duel" along the streets, between tanks and guns. One gun, firing from against the corner of a house, proved especially troublesome. It was a German 37-mm. gun which the Poles had captured, presumably from the antitank battalion which was now being extricated from its difficult situation. As fast as the German tanks would machine-gun the crew of this gun, replacements would drop down from a window in the building alongside. The last replacement so to drop was the lieutenant commanding the gun squad.

During the action in Orla, two of the German tanks were put out of action through direct hits on vital parts. Members of the crews of these two tanks were seriously wounded, but they were able to extricate themselves and subsequently were picked up by other tanks. Three of the other tanks had their plates penetrated, but were not put out of action.

Apparently, the action at Orla ended with the 2d Tank Company in possession of the town. Thereby, one additional rivet was driven in the ring of steel which, on September 11th, was closing around the Poles west of Warsaw.

## CHAPTER XII

### THE AFFAIR AT PRZERWA CREEK

*BACKGROUND. The German Fourteenth Army (List) formed the southernmost element of the forces which invaded Poland on September 1, 1939. The left wing of the Fourteenth Army broke through the frontier fortifications on the 3d, crossed the Vistula on the 5th, and seized the crossings of the San on the 10th. The right wing, attacking through Slovakia, reached*

*the outskirts of Lemberg on September 12th. The Polish forces opposing the Fourteenth Army retreated in two main groups; one to the northeast, toward Tomaszow and the Pripet marshes, and the other due east toward Lemberg (map 20). The retreat was precipitous, and the pursuit thereby became a succession of forced marches. The final week of the campaign, culminating in the surrender of 60,000 Poles at Tomaszow on or about September 20th, was marked by confused and desperate actions.*

THE 133d Infantry Regiment came up to the San River (where mechanized units already had established bridge-heads), marching about twenty-five miles every day—and sleeping about four hours almost every night. By the evening of September 14th the regiment had crossed the San and, now moving north, had gone into bivouac just south of Oleszyce. That never-failing source of German intelligence, friendly (or traitorous) inhabitants, had delivered information to the effect that the woods north of Oleszyce were full of Polish troops. It seemed that the 133d Infantry was about to encounter enemy units attempting to escape from the trap then forming between Bilgoraj and Tomaszow.

On the night of September 14th-15th, the leading battalions of the regiment set out strong security posts and, as has been indicated, bivouacked just south of Oleszyce. One of the security patrols consisted of one platoon of the 10th Company of the 3d Battalion. It is to be presumed, and hoped, that the rest of the 10th Company slept well and long since, as this account will show, it had a long and tough day coming up.

The mission of the 3d Battalion for September 15th involved an advance ". . . on a broad front, through the woods north of Oleszyce," and the clearing of enemy troops from those woods. This mopping-up operation

was to be accomplished by the three rifle companies (9th, 10th, 11th) unencumbered by the machine-gun company (12th) or trains. The machine-gun company and the trains were to follow along on the road after the woods had been cleared.



Map 20: Situation September 14-15, 1939

About 6:30 A.M., as the battalion prepared to move out, the regimental cavalry platoon (an organic part of the German infantry regiment) came in to report the results of a reconnaissance along the road Uszkowce-Dzikow. Enemy troops had been encountered moving

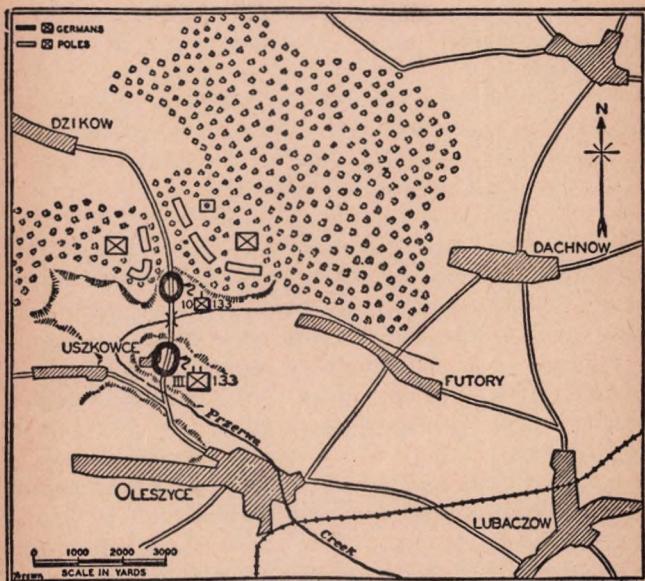
south along the road within the wooded area. The cavalry platoon had identified infantry and artillery elements, had been fired upon, and forthwith had broken away in order to get back with the report.

Despite the evidences of enemy strength in the woods, there appears to have been no great concern in the 3d Battalion over the impending action. The battalion moved out in column of companies, with our 10th Company (less the platoon which had had the night security mission) out in front as an advance guard. Apparently one section of heavy machine guns (two guns), and one section of light mortars were attached to the company. Following the 10th Company at close interval was a platoon of antitank guns from the regimental AT company. About 600 yards back came the battalion headquarters, the other two rifle companies and, finally, the machine-gun company and trains. The exact formation of the 10th Company is not recorded; that of the other companies appears to have been route column. The entire column was moving on the road.

An estimate of the terrain over which this action takes place may be made by reference to map 21. The village of Uszkowce lies on a small nose, or plateau, which is practically devoid of cover. A small stream, Przerwa Creek, runs just to the north of this plateau. The woods cover the high ground just to the north of the creek. The road Oleszyce-Uszkowce-Dzikow is the only one traversing the woods within the sector of the 3d Battalion. This estimate can be ended by noting that on this day—September 15th—the sky was overcast and intermittently there were downpours.

By 7:00 A.M., the 10th Company had crossed the creek and was moving cautiously up into the wooded area. The rest of the battalion, still marching in route column, was traversing the plateau of Uszkowce. At this moment, the 10th Company was taken under fairly

heavy machine-gun and rifle fire. The fire came from the edges of the woods—that is, from either flank as well as from the front. The troops of the 10th Company hit the ground, taking advantage of what little cover they could find. The company commander, apparently believing that he was up against only a weak enemy patrol,



Map 21: The action at Przerwa Creek

decided to attack. The historian of the action (the company commander, himself) goes into no detail concerning the plan for this attack; but, in any event, the impression that the enemy was weak was destroyed almost immediately by the sound of artillery, firing from the woods scarcely 800 yards to the front.

The artillery fire at first was directed at the anti-

tank platoon, which at this time probably was making its way down the slope toward the creek. Several direct hits were scored, and the platoon appears to have been put out of action. Only a few of its half-wrecked vehicles figure further in this account. The artillery fire then lifted to the plateau, which was without much cover, and across which the mass of the battalion was still moving (in route column). The fire was extremely accurate—a circumstance that was puzzling as well as annoying.

This state of affairs caused the company commander to conclude that it was up to him to silence those enemy artillery pieces, and therefore he delayed his order to attack no longer. The order "flew down the ranks." The machine guns were placed in positions from which they could cover the attack, the mortars took located targets under fire, and the platoons themselves began to advance by bounds. They were met by devastating fire, coming from three sides. Losses were heavy, heroic efforts were many, but all to no avail. The assault was stopped almost in its tracks, and the company was pinned to the ground—ground which, as we have seen, offered little cover.

It must have been about 9:00 A.M. as this attempted attack fizzled out. Our company commander thereupon decided to straighten his lines, hold his positions and wait for help. To his battalion commander he sent a message outlining the dangerous situation in which he found himself, requested immediate support, and asserted his readiness to resume the attack under any half-way favorable conditions. By this time the company was almost surrounded, but the messenger somehow got through.

Meanwhile, the battalion commander had been estimating the situation from a point on the edge of the plateau, and had decided to retrieve the situation by

committing the rest of his battalion. In due course, the 9th and 11th Companies advanced to the attack, but by this time the enemy had twenty or thirty machine guns, as well as the artillery, covering the plateau. The companies were unable to advance beyond the crest of the slope; whereupon the situation of the 10th Company changed from one of danger to one of desperation.

(The extreme accuracy of the Polish artillery fire had been remarked. At about this time, that particular aspect of the engagement was cleared up. Someone brought in a civilian who had been found in a church tower behind the battalion lines. He had with him a small radio-sending apparatus.)

From about 10:00 A.M. on, the 10th Company repulsed one Polish attack after another. Losses were heavy. On the right wing, a group which attempted to advance a short distance into the woods was annihilated. The two heavy machine guns went out of action owing to mechanical failures arising from the rain that had been falling intermittently.

Meanwhile, far from being able to aid the embattled 10th Company, the battalion commander had received an order to withdraw a few miles to the rear, there to organize a new defensive position. The CO, 10th Company, was spared this news since the battalion commander was not able to get a messenger through to him. So it happened that the battalion withdrew, leaving the 10th Company to extricate itself, or else.

By early afternoon the company commander must have sensed that things had taken a turn for the still worse. At 2:10 P.M., he drafted the following message:

TO: 3d Bn 133d Inf.

At 2:10 P.M. I continue to hold my advanced lines against overwhelming odds. Losses, very heavy; ammunition, almost gone.

Urgently request help, and information concerning your plans. Enemy attacks have been repulsed repeatedly; but continue to be made. Enemy strength estimated at 2,000-3,000 men.

In case no other order is forthcoming, I hold to the last.

As a matter of fact, this stirring message never reached its destination, since the messenger was unable to get through. Furthermore, the company commander neither received further orders, nor did he "hold to the last." What happened was that he continued to hold, and to think things over; and finally, he concluded that certainly there was no possibility of any further attack by the battalion on this day. The noise of machine guns firing from positions along the creek to his rear told him that now he was completely surrounded.

There is uncertainty as to whether at this time (late afternoon) he knew definitely of the withdrawal of the battalion. The visibility was poor, and there was no mechanical means of communication. But he must at least have had a strong hunch as to how things stood, and he must have realized that if his company was to be saved it must save itself. Accordingly he decided to await the coming of darkness, then attempt to break through to the south, rejoining the battalion. Meanwhile, his losses continued to mount. Polish snipers had established themselves in concealed positions, and were operating with all the finesse and safety (for them) of a target range. However, the 10th Company finally got a break (one of the few that came to it that day) when a storm blew up and hastened the arrival of darkness.

Under the cover of darkness the withdrawal began. Our company commander took personal command of a covering force that consisted of a few picked men with a single machine gun. The platoons moved out silently,

cautiously. The dead and wounded—or most of them, anyway—were carried or helped along by their comrades, or were loaded into a few of the yet-serviceable vehicles that had belonged to the antitank platoon. Owing to the heavy downpour of rain, the road that led through the creek valley was now under water.

It appears that the withdrawal of the 10th Company succeeded chiefly because the enemy did not realize it was taking place. As the company sloshed slowly back, it encountered a few enemy units, but these were not attacked, even when they became interspersed in the column. Above all, the 10th Company wanted no resumption of the fight at this time. And so, in due course, the creek was recrossed and the plateau regained. Finally, the dead-tired survivors of the 10th Company reached the lines of the 3d Battalion, where, it may be presumed, they got some rest and were on hand a few days later, either at (a) the surrender of the Polish forces at Tomaszow to the north; or (b) the fall of Lemberg to the south. (The either-or hedge is necessary since to date it has not been possible to follow in detail the movements of small units through the turbulent events of the last days of the campaign in southern Poland.)

### CHAPTER XIII THE ALMOST-LOST REGIMENT

*BACKGROUND. The main Polish forces, after being driven into a narrow area between the Vistula and Bzura Rivers, surrendered on September 18th and 19th. The week preceding the surrender had witnessed one crisis after another, with the issue frequently in fine balance. The German Eighth Army (Blaskowitz), attacking*

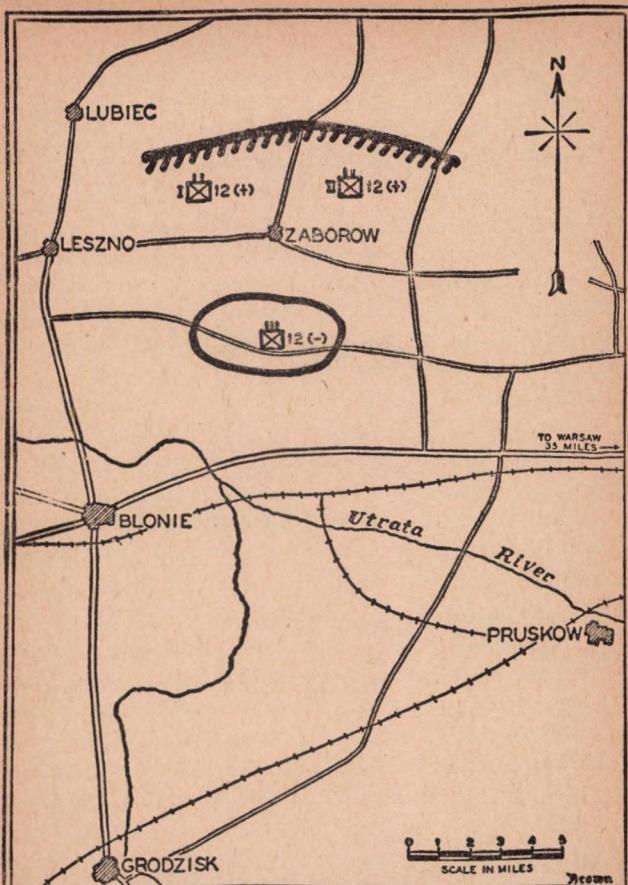
*north along the line of the Bzura, had borne the brunt of the Polish counterattacks. Meanwhile, the left wing of the German Tenth Army (von Reichenau), having attempted unsuccessfully to take Warsaw, had turned to the east, attacked the Poles from that direction, relieved the pressure on the Eighth Army, and all but sealed the narrow gap along the Vistula which finally constituted the only outlet from the trap.*

ON THE NIGHT of September 14th, the staff of the 12th Infantry Regiment (von Reichenau's Tenth Army) was at Zaborow (map 22), relaxing in luxury. For the first time since they had crossed the border two weeks before the officers were sleeping in beds. Regimental HQ had been set up in an old and beautiful Polish castle, until recently a resort for vacationing Warsawians, and until still more recently a haven for refugees. The days following September 14th would have been memorable simply because of the beds, had they not shortly become more memorable because of the further course of events.

Before shouldering our regiment out of its castle of ease and into the unpronounceable woods ahead, let us review the general organization and nomenclature of this German infantry regiment.

The regiment consists of three battalions (twelve companies): a howitzer company (13th); an AT company (14th); a signal platoon; and a cavalry detachment. Each battalion has three rifle companies and one MG company. The companies are numbered consecutively through the battalions—the 4th, 8th, and 12th being the MG companies. The howitzer company has three platoons of light (75-mm.) howitzers, and one platoon of heavy (150-mm.) howitzers. The AT company has three platoons of 37-mm. guns.

On the day in question, September 14th, the 12th In-  
204



Map 22: The night of September 14, 1939

fantry, with one battalion of divisional artillery (three batteries) attached, was covering the right flank of the Tenth Army. Elements of the Tenth Army were moving

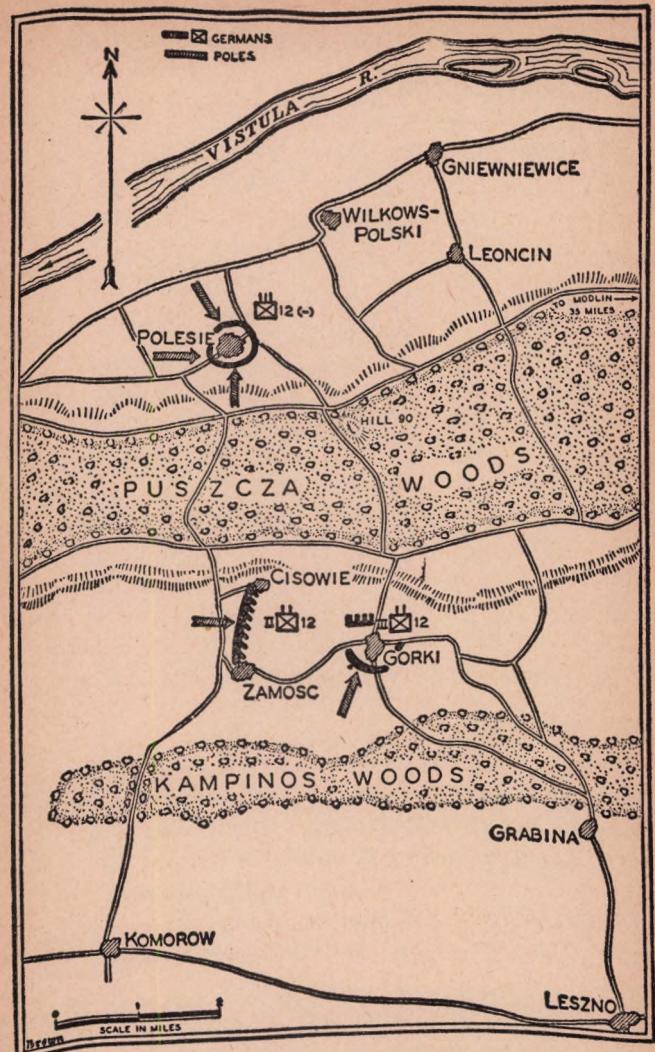
east, attacking the all-but-surrounded Polish forces along the Bzura. And thus the mission of the 12th Infantry consisted of guarding against interference from the north. The map shows the general disposition of the regiment at this time.

The next day, September 15th, about 4:00 P.M. a division order stated that the battle to annihilate the Polish forces was continuing; that the division had the mission of protecting against sorties from Modlin and Warsaw; and that the 12th Infantry was to advance north through the Puszcza woods (map 23) to the Vistula, thus to cut off the one remaining avenue of escape for the entrapped Poles.

In the hours following receipt of the division order reports came in from different reconnaissance units. Weak enemy forces had been observed east and north of the Puszcza woods. Scattered enemy units had also been encountered within the area Leoncin-Polski-Gniewniewice. Throughout the whole reconnoitered area—and on this point all reports were in emphatic agreement—the roads were nothing but ruts in deep, fine sand. According to the reports, the roads were passable for infantry and cavalry; impassable for anything else.

At 8:00 P.M. the regimental order was issued. It said that the regiment would advance from Leszno, over Gorki and Zamosc, cross the Puszcza woods, and cut off any enemy forces seeking to escape toward Warsaw through the narrow gap between the woods and the Vistula. The time for beginning the advance was set at 10:00 A.M. next morning. If any staff officer tossed in his bed that night, it was because of his concern over the prospective poor roads rather than over the prospective weak enemy. (As it turned out, the roads stayed poor, but the enemy did not stay weak.)

At 10:00 A.M. the next morning, the regiment moved  
206



Map 23: Zone of action, 12th Infantry

out in a rain which showed no sign of abating. The movement was in two columns, details of which follow:

*Right (main) column*

Route: Gorki—Polesie

Composition: Cavalry detachment  
Infantry detachment

1st Company

1 platoon light howitzers

1 platoon AT guns

1st Battalion

1 platoon heavy howitzers

1 field artillery battalion

1 platoon AT guns

5th Company

Regimental staff and signal

platoon

6th Company

8th Company

13th Company

14th Company

7th Company

2d Battalion

*Left column*

Route: Zamosc—Polesie

Composition: 3d Battalion

1 platoon light howitzers

1 platoon AT guns

3d Battery, F.A. battalion

Reconnaissance detachments were sent out ahead of each column. Contact between columns, and between regiment and division, was to be by radio.

The sandy roads turned out to be as tough going as the scouts had said they would. However, in the German infantry division many vehicles are still horse-drawn. And to that circumstance can be traced the fact that the 12th Infantry was able to advance at all. The motor vehicles were often helpless as far as their own power was concerned. Sometimes the assembled manpower of the troops could push and pull them forward. But at many critical spots it was a case of hitching the horses to the trucks. The real savers-of-the-day were the heavy draft horses of the artillery batteries.

The main column made its slow way through the Kampinos woods and across the flats and through Gorki without incident; that is, without incident other than the continuing incident of trouble with the roads. The 2d Battery of the artillery battalion went into position in a farmyard north of Gorki, with the mission of covering the march of the column through the Puszcza woods. At the northern edge of the flats, where the road climbed to the higher elevations of the Puszcza woods, the going was especially difficult. Here it was necessary to corduroy the road; and to that end, groups of local inhabitants were commandeered and sent out with orders to come back with bunches of fir saplings and branches. This expedition, plus the use of artillery horses in fours, sixes, and even in eights, enabled the column to gain the entrance to the Puszcza woods.

About 1:00 P.M. the advance guard of the main column (1st Company) occupied Polesie, after brushing aside weak enemy resistance. The rest of the column was pushing and pulling its way through the woods to the south. At this time, apparently, it still looked as if the regiment would be able to accomplish its mission in more or less routine fashion.

About 3:00 P.M., as the regimental staff approached

the northern edge of the woods, a radio message (the first) came in from the 3d Battalion: "Seriously engaged at Zamosc. Advance blocked." This message was the first indication that things might not go exactly according to plan. A further complication was that the message arrived at a time when the regimental commander had ridden forward to Polesie. And so the adjutant handed the message to the next-in-command, the commander of the 2d Battalion.

On receiving the message, this battalion commander displayed the initiative which is a characteristic of German troop leaders. He assembled his battalion (less 5th Company) and marched immediately on Zamosc, with the thought of relieving the 3d Battalion. These battalions were to be heard from, but were not to be seen by the regimental commander, for the next three days.

By evening the situation confronting the regiment was already looking bad. The 2d Battalion was holding a line extending roughly from Cisowie to Zamosc, and was being heavily attacked from the west. The 3d Battalion had managed to extricate itself from the engagement near Zamosc (probably as a result of the diversion provided by the approach of the 2d Battalion), and had withdrawn to the vicinity of Gorki. This withdrawal had involved the sacrifice of most of the battalion vehicles. At Gorki the battalion had apparently made contact with the 2d Battery of the artillery battalion. Meanwhile, the main column had assembled in Polesie, where throughout the afternoon it had been under attack from the west. The forces defending themselves in Polesie now consisted of: the regimental staff; 1st Battalion; 5th Company; 13th (howitzer) Company, less 1 platoon; 14th (AT) Company, less 1 platoon; the regimental cavalry detachment; and the artillery battalion, less 2d and 3d Batteries.

All during the afternoon the signal platoon had been making desperate efforts to contact division by radio, but had failed owing to bad weather. As night came on, however, reception improved, and finally a message from division came in. The regiment was informed that the divisional reconnaissance detachment had been attached to the 12th Infantry, and was now awaiting orders at such-and-such a place (apparently a point near Leszno). An officer-messenger—a means of communication often used in the Polish Campaign—was then dispatched toward Leszno with an order requiring the reconnaissance detachment to be in Grabina by morning, and from there to make contact with the 3d Battalion in Gorki. Since the German divisional reconnaissance detachment is quite a formidable unit, news of this attachment must have come as a great relief to our regimental commander.

At dawn on September 17th, after a relatively uneventful night, the Poles resumed their attacks on Polesie from the west. About 7:00 A.M., the 2d Battalion reported that it was still holding the line Cisowie-Zamosc against attacks from the west. The same message said that the 3d Battalion in Gorki was now being attacked from the Kampinos woods; and that to date nothing had been heard from the divisional reconnaissance detachment. (It later developed that the reconnaissance detachment had itself become engaged in a desperate fight near Lubiec. In fact, the detachment never reached the regiment in time to be of any material help in the difficult situations that followed.) Meanwhile, the attacks against Polesie were now coming from the south as well as from the west.

The general aspects of this situation (late morning, September 17th) are indicated on map 23. By now it was clear to the regimental commander that not only was his regiment as a whole isolated, but that his units in

Polesie were isolated from the rest of his regiment. The colonel must have sensed that his regiment had stepped in front of a major Polish movement. The situation was made the worse by the difficulty of maintaining radio contact with division.

During the afternoon scout patrols operating to the north of Polesie reported that the road running along the Vistula through Wilkows-Polski was jammed with enemy columns moving to the east. This road led from the mouth of the Bzura to Modlin, and was obviously being used by Poles escaping from the trap of the Bzura. The mission of the regiment had been to prevent such an escape. But of course full accomplishment of that mission was no longer possible. However, the regiment began immediately to interdict the road with fire from its artillery battery and from its howitzer platoons. Reports as to the movements on the road were meanwhile radioed repeatedly to the division. At 6:00 P.M. the appearance of a squadron of bombers showed that the division had received the messages.

The bombers first gave their attention to helping the hard-pressed battalions of the 12th Infantry, cruising over the woods and dropping bombs on the attacking Poles. Then the bombers turned to the road and bombed it to such effect that the enemy abandoned his attempts to use it. From then on, most of the enemy movements were directly overland, through the woods. But the regiment was powerless to interfere seriously with these movements, since by now almost every last man was in the line, helping to repulse the constant attacks.

During the early evening (still September 17th) two messages from division came through. One of them (6:30 P.M.) requested advice as to where ammunition and food supplies could be dropped. The other (8:00 P.M.) ordered the battalions to hold their positions, and advised that another division was marching north to

their relief. Meanwhile, casualties were increasing, and the care of the wounded (and of the few prisoners which were being taken) became a serious problem.

The second night of isolation was a busy one. On the front line, soldiers relieved one another and in between times caught snatches of sleep as they could. At the regimental CP, messages came in in a steady stream—an attack here, an enemy movement there, requests for help, reports as to losses, and many another message. The woods on all sides seemed full of Polish troops moving to the east. During the night a few of the Poles infiltrated into the positions, there to be made prisoners after an alarm which caused everyone, even to the buglers at regimental HQ, to turn out with rifles in hand.

The morning of September 18th found the units in Polesie disposed in a ring around the village, in order about as follows: to the south and southeast, 5th Company; to the east, 1st Company; to the northeast, one platoon 3d Company; to the north, 2d Company; to the northeast, 3d Company less 1 platoon; to the east and southeast, cannoneers and others. The 3d Company had been designated as the regimental reserve.

Throughout the morning of September 18th the Polish attacks continued and, although they were repulsed, the ammunition situation began to look serious. Meanwhile many casualties were following from the pot-shots of snipers hidden in the treetops. The German defense against these snipers finally took the form of direct fire from the infantry howitzers into the tops of trees. Small round holes began to appear in the foliage, and before long the fire from snipers had all but ceased.

During the morning two items of encouraging news came in over the radio. The first concerned a successful assault by which the 2d Battalion had reached the

road junction west of Zamosc and had recaptured many of the vehicles abandoned by the 3d Battalion. The second concerned the relief division, the advance elements of which had entered the Kampinos woods that morning. Acting on these items of information, the regimental commander radioed an order for the 2d and 3d Battalions to attack to the north through the Puszczwa woods with a view to joining forces with his units in Polesie.

But despite the encouraging developments elsewhere, things around Polesie were approaching the desperate stage. The chief danger was the shortage of ammunition. This indeed, was becoming critical just as the attacks from the north, west, and southwest were reaching maximum ferocity. Urgent messages advised division of the situation, and at 11:20 A.M. the reply was received. "Hold on. Tanks are on the way. Help from the air is coming."

At 3:30 P.M., just as the supply of ammunition was about to run completely out, the airplanes appeared and dropped the needed replenishments. The planes then turned upon the attackers, unloading on them their sticks of bombs. After this help in the nick of time, the attacks of the Poles slackened a little in intensity, and the pauses between their attacks grew longer.

Meanwhile, the 2d and 3d Battalions had launched their attack to the north. It proceeded very slowly, and came almost to a complete halt in front of Hill 90, a mile and a half south of Polesie. By 5:00 P.M. a few scattered elements of the attacking battalions had broken through to Polesie, but the mass of the units was still held up in front of the hill. As a further encouraging interlude, a single armored car (perhaps from the relief division) broke through the enemy lines and rolled into Polesie as night was falling.

As the units at Polesie tightened their lines for the

third night of isolation, the situation still had its elements of danger. But the real crisis had been dissolved. It seemed certain now that it would be only a matter of hours before the 12th Infantry would be reunited, and only a few hours more before the relief division would be at Polesie. By this time, in fact, developments in the big picture were also hastening the relief of our beleaguered regiment. The issue along the Bzura had been decided, and the Polish armies gathered there now were surrendering en masse. The troubles of the 12th Infantry were almost over.

The historian of this action (apparently the adjutant of the 12th Infantry) does not detail the events of September 19th—the day on which relief came to the regiment. He mentions the fact that on the morning of the 19th the enemy attacks had grown relatively weak. And then he skips to September 20th, the day the regiment was reunited with its division at Komorow.

It appears that by the time it was relieved the regiment had taken about 350 prisoners, seven of whom were officers. Two of these were of especial interest—one because of who he was; the other because of what he carried. The first officer was identified as a colonel, commanding a regiment of the Pilsudski Light Infantry. This was proof that the 12th Infantry had been up against the élite of the Polish Army. The other interesting prisoner turned out to be a paymaster, and he carried with him a box. The box contained the interesting and tidy sum of 352,000 *zloty*.

After comparing notes, questioning prisoners, and making a general after-the-fact survey of their 94-hour Battle of Isolation, officers of the 12th Infantry concluded that the force which had all but engulfed them must have been a Polish division. They insist that it was a division that was withdrawing in good order, still well organized and equipped, and still operating at full

combat efficiency. Their belief as to its élite-ness has been noted. All this being the case, the 12th Infantry probably owes its escape from engulfment not only to its own last-ditch resistance, but also to the fact that the chief object of the retreating division was to reach the bridge at Modlin—not to annihilate a regiment which stood partly in the way.

#### CHAPTER XIV

#### A GREAT DAY FOR THE A.T.

ACCOUNTS OF German tanks in offensive action are a dime a dozen, but here we have a man-bites-dog rarity—an account of an action involving French tanks and German antitank guns. The rarity angle of this action is made the more impressive by the naïve way in which the German chronicler recounts an affair which reflects scant credit on his own unit, the regimental antitank company of the 28th Infantry.

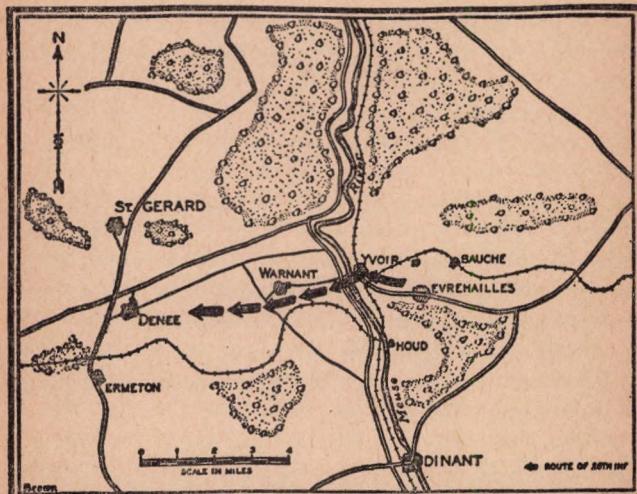
Before getting involved in our story it is in order to review briefly the general characteristics of the antitank component of the German infantry regiment as of the campaigns of 1940. That component consisted of one company, the 14th. The antitank company was organized into four platoons, each platoon having three guns. The guns were of 37-mm. caliber, towed behind 6-wheel trucks.

The situation with which we are here concerned arose on May 15th, and was a continuation of an operation that had taken place the day before—the crossing of the Meuse at Yvoir. In that crossing two regiments of the division had advanced abreast, the 84th on the right at Yvoir, the 28th on the left, just south of Yvoir.

The night of May 14th-15th found the assault regi-

ments holding the line of the bridgehead in the vicinity of Warnant (map 24). Early on the morning of the 15th the advance westward was resumed. From this point on, our attention turns to the 28th Infantry and its anti-tank company.

The morning of May 15th was clear, hot, and very dusty. As the regiment moved out dive-bombers could be seen operating over the distant front. However, to



Map 24: The Warnant bridgehead

the immediate front, enemy resistance appeared to be almost nil. The regiment advanced virtually in route columns, covered by scouts operating far ahead. There were two main columns, the 2d Battalion on the right, the 1st Battalion on the left. The 3d Battalion was to move behind the 2d Battalion at considerable interval. At this initial stage, the antitank platoons were disposed as follows: the 2d Platoon attached to the 2d Battalion;

the 3d Platoon attached to the 3d Battalion; the 1st and 4th Platoons under direct control of the regimental commander, moving in the interval between the 2d and 3d Battalions.

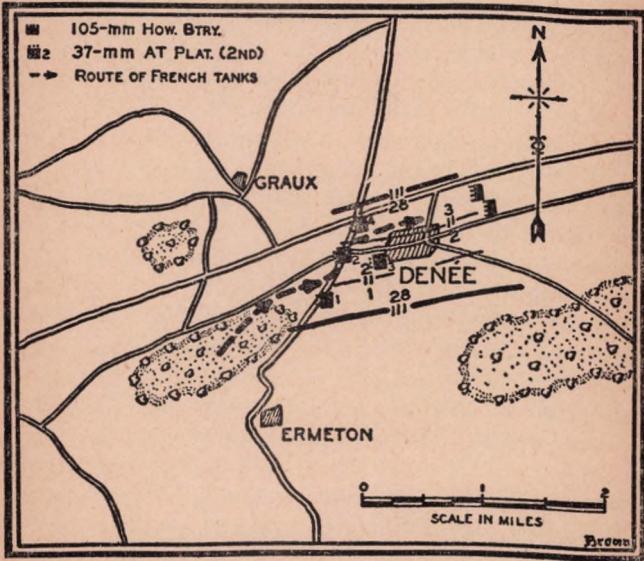
About 12:30 P.M., as the 2d Battalion approached the village of Denée, the regimental commander received a report from the scouts: The French were preparing to make a stand along and to the west of the broad asphalt highway Ermeton-St. Gérard. The woods to the west of the highway were full of enemy troops. There was some evidence that the enemy was preparing to use tanks.

Such being the situation, the time for route marching was over. The regimental commander decided to halt the advance to the east of the highway, to deploy his assault battalions, to wait for the 3d Battalion to come up, and then to attack over the highway. This decision implied security provisions for the command during the reorganization at the halt, and this is where our antitank platoons come in. From this point on, we will be chiefly concerned with events in the sector of the 2d Battalion. By 1:00 P.M., the latter was in the process of deploying in and near Denée.

Under the plan for antitank security, the 2d AT Platoon, which was the only one immediately available, was constituted the "first line of defense." That platoon moved out toward the highway with the mission of protecting against attacks from the west, and along the highway (map 25). The platoon commander found that the fields of fire on either side of the highway were poor and so he set up two of his three guns directly on the road. He placed the third gun between the other two, and just to the west of the highway, where it formed an "angle point."

Within a short time—perhaps by 2:00 P.M.—the 1st AT Platoon came up and established a "second line of de-

fense," with its guns set up just to the west of Denée. About the same time there was another significant arrival on the scene: two batteries of light (105-mm. howitzer) artillery, which had been traveling far forward with the mission of supporting the attack of the 2d Battalion. The batteries went into position near and to the east of Denée. More about them later.



Map 25: The 2d Battalion sector

It was 3:00 P.M. before the 3d Battalion, and the 3d and 4th AT Platoons came up. The 4th Platoon was immediately sent forward into Denée, where it set up its guns among the gardens of the village. The 3d AT Platoon had been covering the right flank of the advancing battalion, and it continued on that mission.

Soon after 3:00 P.M., the attack jumped off. The

waves of infantry of the assault battalions passed by the antitank guns (which now occupied hasty emplacements) and crossed over the highway. The infantry was received by machine-gun fire from the woods to the west and presently fire began to fall on Denée and vicinity. Consequently the antitank-gun crews had a harrowing time, but their attentions were soon to be drawn to problems of more immediate concern.

The first indication of action along the antitank front developed a few minutes after the attack had begun. This indication came in the form of an emergency call from the 1st Battalion for antitank protection. The solution of the regimental commander was to order the 1st AT Platoon to the danger spot. Within a very few minutes, the crews of that platoon had manhandled their guns up to the road, where they were hitched to the trucks and driven away, toward the 1st Battalion and out of this story. Shortly thereafter the 3d AT Platoon was ordered up out of the gardens of Denée and into the positions left vacant by the 1st Platoon.

As the attack moved slowly ahead, the antitank guns were kept in position, protecting the rear and flanks of the regiment. There was, says our chronicler, "something in the air"—something which soon developed into shouts of "Enemy tanks approaching." Within a few seconds everyone could see the cause of the shouts. They were French tanks, big ones of the Char B class weighing thirty-two tons, carrying 70-mm. of armor and armed with a 75-mm. cannon. These were the tanks which Frenchmen still declare to have been the world's best. In this present instance, there were only about six of them. They were advancing northward in an open irregular formation, over the terrain just to the west of the highway. When first sighted they were perhaps one mile to the south of Denée. They were traveling with all doors closed, hatches down.

As the tanks continued to move northward, there came sounds of firing from the left. That would be the guns of the 1st AT Platoon, which had gone to the aid of the 1st Battalion some minutes before. Other sounds and flashes showed that the tanks had also taken up the fire fight. They were firing on the move and consequently were not coming close to hitting anything.

The French tanks must have passed directly across the front of the guns of the 1st AT Platoon. In doing so, they apparently suffered no losses—a statement more surprising now than it will be later in our story. Meanwhile, the antitank crews in the sector of the 2d Battalion held their fires until the tanks came within about 800 yards' range. At that point the guns opened up, and very shortly everyone was gratified to see one tank fall by the wayside. Inspection through the glasses revealed that a track had been broken. The Germans would have done well to have taken this incident to heart and to have directed their fire exclusively at the tracks in the future. However, the other tanks continued to advance. The tanks' 75's continued their wild fire, most of which passed far over the heads of the antitank crews. However, bursts of machine-gun fire occasionally splattered the shields of the guns.

As the tanks came closer and closer to Denée and the gun positions thereabouts, there occurred what appeared at the time to be a break of major proportions for the defenders. The tanks, still moving across country to the west of the highway, encountered an accident of terrain which they could not negotiate. Their solution was to leave the fields, climb up onto the highway, and resume the advance along the road. This change from travel over the fields to travel along the highway must have occurred about 500 yards south of Denée.

Here was a situation made to antitank order: Tanks advancing in column, down a broad highway, no cover

whatsoever, with the antitank guns in positions to front and flanks. On the face of it, it should have been like shooting fish in a barrel. The antitank crews were quick to take advantage of the situation. They poured round after round against the tanks, now at pointblank ranges. They fired so rapidly and continuously that the barrels of the guns "were glowing hot." But—these were German 37-mm. guns and that was 70-mm. armor, and the tanks kept rolling along.

It will be recalled that two of the guns of the 2d AT Platoon had been emplaced directly on the road, and it will be perceived that the situations of these guns must have been becoming critical as the tanks approached closer and closer. The leftmost gun stayed in there and fired as the range narrowed to 100 yards—80 yards—40 yards—20 yards—until, just in time, the crew pushed their gun into the ditch and dived in after it. The crew of the other gun repeated this performance, although they did not draw the margin of safety so fine. Meanwhile the tanks rolled right on by, giving no evidence that they were aware of antitank guns in their path.

At this point we might pause to conclude that the antitank defense of the 28th Infantry was a washout, and so far as the 37-mm. guns were concerned apparently it was. However, the story has another chapter. It unfolds as the tanks pass Denée and, perhaps 100 yards to the north, turn off the highway to the east. Apparently the mission of the tanks was to operate against the deep rear of the 28th Infantry, or perhaps against the bridge thrown up the night before at Yvoir.

As the first tank turned off the highway, it came into full view of one of the batteries of 105-mm. howitzers which had been put in position east of Denée. Here again it was fish in the barrel: Tanks without cover in full view and within pointblank range of artillery. The howitzers opened up immediately. The leading tank

stopped and a terrific fire fight, howitzer versus tank, ensued. But now it was a case where hits meant runs. Within a few seconds, the leading tank was out of action, burning.

Meanwhile, the 37-mm. guns were continuing to fire their two-cents-worth and, to give them their due, with some effect. The effect was in the form of another hit on a tank track. When that tank continued to fire from the halt, it was accounted for by a howitzer hit which "tore the entire turret away."

The remaining tanks followed generally in the paths of the leading ones. According to our chronicler, the story was always the same: sudden death for the tanks through direct hits by the artillery. Within a few minutes there were no more tanks and no more noise.

There followed a pause—a pause which suited the 37's very well, inasmuch as they had shot up almost all of their ammunition. The cry now was "ammunition to the front," and in the interests of bringing the ammunition up, "every vehicle in the vicinity, whether belonging to the antitank company or not, was pressed into service." Just as the situation eased, the old shouts again were heard: "French tanks from the south."

This second wave of tanks repeated the story of the first. The tanks took to the highway at the same point, and turned off to the right as had the others. The story was the same: the tanks rolled by the 37-mm. guns, only to be stopped by the howitzers. This time some of the tanks, seeing what was happening, turned back in time and withdrew into the woods to the southwest.

This entire action had lasted only three-quarters of an hour. By German count a total of eighteen French tanks were involved in the assaults, of which eleven were destroyed. Our chronicler intimates that it was a great day for the *Panzerjägerkompanie* (infantry anti-

tank company). My reaction to that is to say perhaps so, but, except for a battery of howitzers, it wouldn't have been.

## CHAPTER XV

### CONQUEST BY AIR

THIS is the story, necessarily incomplete and probably somewhat inaccurate, of the conquest of Crete. It is a story of conquest by air, a conquest in which a small mixed ground force without heavy supporting weapons, without transportation, and without important land or sea communications, was literally blasted into victory by overpowering support from the air.

This war of tremendous events has produced no more significant or lesson-rich campaign. Indeed, the danger is that the spectacle of a defended *island* being reduced without control of the sea tends, by its very uniqueness, to suggest unjustified conclusions. Therefore, let us attempt to recast the events as they occurred, and then attempt to divine what they mean.

#### PHYSICAL CONSIDERATIONS

Of all the unfavorable theaters to which this current war has one time or another spread (Ardennes, Albania, Greece, North Africa), perhaps the most unfavorable is the island of Crete. Unfavorable, that is, in the sense of imposing grave limitations on movement, observation, supply. Nature must have intended Crete to be anything other than a theater for modern war.

Nevertheless, Nature did endow Crete with the inherent characteristics of *strategic position*, and thereby made of the island a military prize of importance. The map tells the story: Crete is a barrier, dominating the entrance to the Aegean Sea (map 26). It is a stepping

stone between Sicily and the Dodecanese Islands. Held by Great Britain it is a base for air operations against objectives on the Grecian mainland, and even against objectives further to the north and west. Held by the Axis it is a base for air operations against Cyprus, Syria, Suez, and the North African coast. The strategic situation being what it is, it is not surprising that following



Map 26: Crete dominates the entrance to the Aegean Sea

the occupation of Greece, Germany decided that the further occupation of Crete was worth a major effort.

Our estimate of Crete as a theater of operations may be facilitated by reference to the large-scale map (map 27). Crete is long (160 miles) and narrow (average eighteen miles in width). Crete consists essentially of the upper levels of a range of mountains which rises out of the very deep eastern Mediterranean waters. Along the

axis of the island the mountains rise to elevations above 7,000 feet. The various mountain-masses are connected by high, rough saddles. The mountains are composed largely of limestone and igneous rock. They are not wooded, but in general are covered by wild bushes and thickets.

There are very few plains or flat areas on the island. Generally speaking, the mountains fall precipitously into the very deep surrounding waters. As a result the island has a regular coastline with very few acceptable harbors. Indeed, along the entire south coast there is nothing deserving the name of harbor, and along the north coast the only harbor which is at all suitable for deep-draft vessels is the one at Suda Bay. Even Suda Bay is far from ideal—it offers little protection against the north wind, its anchoring grounds are too deep, and its docking waters are too shallow. Suda Bay formed the base for such British naval units as operated from Crete after the British occupation in October of 1940.

An indication as to the climate of Crete is the fact that the island lies in the latitudes not of Europe, but of North Africa. Thus, the spring and summer days may be very hot (say to 120 degrees), while the nights may be quite cold. Water supply for troops in the fields is a problem almost as difficult as in Libya.

Crete has a population of about 400,000. A few of the people eke out a living in the mountains, chiefly by sheep-raising, and a few cling to the fishing villages of the south coast. Most of them, however, live along the narrow northern coastal plains where the chief means of livelihood is the growing of olives. Thus the few flat places on the island are usually covered by olive trees—trees which have a low, thick foliage, such as to make observation for military purposes very difficult.

The roadnet of Crete is exceedingly simple and sparse. There is one road running generally along the north

coast, connecting all the principal centers of population. This road, poor as it is, is the backbone of the island's communications system. A few subsidiary roads (trails is a better word) extend south from the main coastal road to specific points in the interior or on the south coast. These subsidiary roads run through the saddles which connect the mountain masses. An example of such a road is the one from Kalami (just east of Suda) to a point just short of Sphakia on the south coast. (The fact that this particular road stops short of its logical terminus—to which it is connected by a footpath—is illustrative of the general status of Cretan communications.) All Cretan roads, including the main coastal one, pass through many defiles. Meanwhile, the country between and off the roads is exceedingly rough, being practically impassable for any sort of self-propelled vehicle.

The Cretan terrain being what it is, it is clear that good air fields on the island are few and far between. As a matter of fact, in their six months of occupation, the British appear to have attempted to develop only three sites; the chief one at *Maleme*, ten miles west of the island capital of Canea; one at *Rethymnon*; and one at *Candia*. Little is known concerning the characteristics of these fields but certainly none of them offered any exceptional natural advantages.

#### THE FORCES INVOLVED

To arrive at an estimate of the forces with which Crete was being held at the time of the attack, we must resort to deduction. At the time of the British occupation, during the closing months of 1940, it was generally understood that the occupying force was a single division. During the Grecian campaign certain Australian and New Zealand units were evacuated to Crete. One unofficial source puts the number of Australians so

evacuated at about 6,500. Since the entire British force in Greece did not itself amount to more than about two divisions, it is logical to conclude that no more than, say, the equivalent of a division could have been landed at Crete; and, the figure for Australian strength quoted above leads to the conclusion that the evacuees were about equally divided between Australians and New Zealanders. In addition to the British military forces, there were, according to the Prime Minister, about 2,000 Marines in action. Finally, along with the British, of course, were some Greek troops.

All in all, this evidence leads us to estimate the British forces in Crete at about 32,000 (15,000 English soldiers, 15,000 Australians and New Zealanders, and the 2,000 Marines); and to this we may add a guess of, say, 10,000 Greeks. (Pursuing the same process of deduction, German commentators arrive at a total British-Greek force of about 50,000—a reasonable check under the circumstances.)

The defenses of Crete were commanded during the critical days by Major General Freyberg, a distinguished New Zealander whose "exploits in war and peace rival those of the heroes of antiquity," and who had commanded the New Zealand division during the Grecian campaign. One of General Freyberg's peacetime exploits had been an almost-successful attempt to swim the English Channel in 1925.

An estimate of the German forces employed in the attack on Crete involves further uncertainties. Prime Minister Churchill is authority for the statement that 3,000 parachutists were dropped near Suda Bay during the first day of the attack, and if we double that figure we have a reasonable estimate as to the total number dropped on the various objectives over the island. Meanwhile, as the battles progressed, German rein-

forcements poured in constantly. Regardless of the total number of Germans thus involved, however, we shall see that the critical actions were fought and won by two regiments of mountain troops and a special "pursuit detachment," acting in conjunction with what was left of the parachutists.

The German action against Crete was in general charge of *Reichsmarschall* Goering. The "tactical operations" were under the direct command of *Generaloberst* Löhr, commanding the 4th Air Fleet. The chief figures in the Löhr Task Force were the following: General-of-Aviation Student "with strong parachute, air-borne and mountain units"; and, General-of-Aviation Richthofen, "with his strong VIII Air Corps." The commander of the mountain division which, as we shall see, played so important a part in the battle was one General Ringl, an Austrian.

It is likely that the British division (?) which originally occupied Crete was deficient in equipment and especially in supporting AA artillery. There is evidence of a few light tanks having been on hand, but it is certain that the units evacuated from Greece were lacking in almost all types of equipment and armament—so much so, in fact, as to suggest the thought that these evacuees may have been more of a liability than an asset in the fight. Finally, it is clear that the British had never reached the point where they were basing considerable numbers of aircraft on the Cretan air-dromes.

During the critical phases of the battle the German troops also were operating with only light equipment and armament, but between the German and the British cases there was one far-reaching difference. The German attackers were supported by the practically unlimited resources of Richthofen's air corps. It was

a case, as we shall see, of poorly-armed ground forces advancing behind a terrific artillery preparation.

The fundamental relationship which delivered into German hands absolute air supremacy over Crete was set up at the moment the Germans moved into southern Greece and occupied the airfields there. Six of the occupied fields—two near Athens, one each at Argos, Sparta, the island of Melos, the island of Scarpanto (one of the Dodecanese Islands)—were within effective fighter-plane range of Crete. On the other hand, the distance from Crete to the British bases in North Africa was about



Map 27: The island

400 miles—beyond effective fighter-plane range. The net result of this situation was to make the Cretan airfields untenable for British aircraft. This condition had been reached even before the invasion proper took place with the result that the defenders of the island were almost completely without air support from beginning to end.

#### THE PARACHUTIST OPERATIONS

The actual invasion of the island came as no surprise to the defenders. As early as May 12th, large assemblies of Ju-52 troop-carrying airplanes had been reported

on the various Grecian fields listed above. Meanwhile, German activity in the air over Crete had been becoming progressively more intense. The British installations were bombed constantly, and it is safe to assume that every critical part of the terrain was carefully reconnoitered and photographed from the air. All of these signs pointed to an attempt at invasion. Finally, on May 18th, two German aviators fished out of the sea confided to their Greek rescuers (whom they naïvely believed to be friendly to the Germans) that the zero hour was set for the morning of the 20th.

The invasion did come on the morning of the 20th. The sequence of events at each of the points of attack appears to have been about as follows: first a terrific bombardment by high-level and dive-bombers, followed by and mixed in with machine-gun strafing by fighter planes; then the attack by "several thousands" of parachutists, still with the support of the dive bombers.

It is possible to build up a fair picture of the parachute-dropping phase of the action by analyzing several eyewitness accounts. The violent preparatory bombardment had the effect of pinning the defenders to the ground and of shaking them up. Everything was perfectly coördinated by the Germans, the troop-carrying transports appearing on the scene immediately following the preparatory bombardment, and before the defenders could regain their cohesion. The transports came in from the sea in formations of about fifteen planes each. They were flying very low—some accounts say as low as 200 feet—and before the parachutists from one formation had much more than touched ground another would be overhead discharging its load. Apparently, the parachutists came in waves of about 600 each—the inference being that there was a lapse of time between successive waves. Perhaps one-third of

the parachutes carried equipment. There are authentic accounts of the dropping of infantry howitzers and antitank guns—by means of double and triple chutes.

The parachutists were dropped, as usual, from three-motored "Junkers 52" planes. The Ju-52 is a large (wing-span 100 feet) cumbersome plane with a maximum speed of less than 200 miles per hour and a range, fully loaded, of about 500 miles. Each Ju-52 accommodates about thirty parachutists.

Interspersed with the parachutists were a few glider-borne troops. The normal German glider is only slightly smaller than the Ju-52 (wing-span of glider seventy feet), and accommodates about twelve men. Reports indicate that the gliders came in low trains of four to six, towed by a loaded Ju-52 (giving the tow-unit a strength of as much as 100 men). They were released as they approached the landing fields. They ". . . looked more ominous than the parachutists . . ." but frequently they were carried away from their landing objectives by contrary air currents. Since the gliders were used so sparingly, it is likely that so far as they are concerned the operation was nothing more than an experiment.

The parachutist himself carried a tommy gun with bands of ammunition slung around his neck. He carried also a knife and at least one hand grenade. There are reports of parachutists firing with their tommy guns as they descended.

On the point of picking the parachutists off while in the air there is some conflicting evidence, this possibly being illustrative of the confusion into which a large-scale bombing-parachute attack may throw a defending force. One account states that out of ten typical parachutists, one was killed through failure of the chute to open in the short descent (this witness says the jumps were from 300 feet), one was picked off by

the defending riflemen on his descent, one was put out of action by breaking wrist or ankle on alighting, and the others "spouted about helplessly with tommy guns" only to be "picked off with rifles at 600 or 700 yards distance." Another account states that it is impossible to hit a descending parachutist with a pistol and is almost impossible with a rifle; but that it is "easy enough with a (captured) German tommy gun if you can get close enough."

The very first action on the part of the parachutist after cutting himself loose from his chute was to seek local cover. Here again the *Luftwaffe* entered the picture: the most readily available covers often were the craters resulting from the bombing attacks. After gaining local cover, the parachutists attempted to orient themselves, to form into small combat groups, and to reach their equipment chutes.

As has been indicated, the German parachute attack was directed against four vital points and four only. These four points were:

- the airfield at Maleme,
- the city of Canea,
- the airfield and town of Rethymnon, and
- the airfield and town of Candia.

In general the parachutists were dropped outside their objectives and hence outside the lines of the defenders. The descents on Maleme and Canea came early in the morning, but those on Rethymnon and Candia began during the afternoon. As to numbers we have already noted the estimate of 3,000 men dropped in the Suda Bay area (Maleme and Canea), and have already ventured the estimate that a like total applies to Rethymnon and Candia (1,500 on each objective).

Obviously, as of May 20th, there was nothing to indicate to the defenders which of the attacks constituted the main effort. As a matter of fact, there is some evi-

dence that the Germans themselves were in doubt on the point and were awaiting developments. Significantly the German communiqués were silent on the entire operation until May 24th, by which time the crisis had passed and success was all but assured. This indicates more than a German doubt as to point of main effort. It also indicates a doubt as to the success of the operation as a whole. Perhaps the Germans undertook the operation as an experiment and were agreeably surprised at the quick results.

German accounts emphasize that the critical hours of the entire operation were the ones immediately following the initial descents. Those accounts throw some light on the matter of the German conception of the psychology of the parachutist in such an operation. During the critical first hours the parachutists must operate with no knowledge of the general situation. He must be prepared to undergo the most severe physical hardships and to carry on against any enemy elements which may be encountered. The parachutist must have complete faith in the high command and must operate in the belief that he will be supported and relieved in due course.

It is clear that the British and Greek defenders must have exacted a considerable toll from the parachutists dropped on May 20th, but any estimates as to percentages or numbers lost at present are nothing better than guesses. Whatever the losses may have been, the fact remains that the parachutists, with their ever-present dive-bomber support, were not wiped out but after passing a hot and thirsty day and a cold night were situated about as follows on the morning of May 21st: Holding areas around the edges of the airfields at Rethymnon and Candia (the fields and towns being in British hands), holding areas close to the city of

Canea (the city itself being in British hands), and, holding the airfield at Maleme.

The italics are mine and they are completely justified. The seizing of an airfield was the key to the German plan. As of the morning of the 21st the German hold on the field at Maleme was precarious. The British were still controlling the field by artillery emplaced in positions among the hills to the east. Thus, the Germans had the field but they could not use it—at least, not effectively. The situation appears analogous to a river over which there is a shallow bridgehead, but on which there is still falling observed artillery fire and across which, accordingly, a ponton bridge may not yet be constructed.

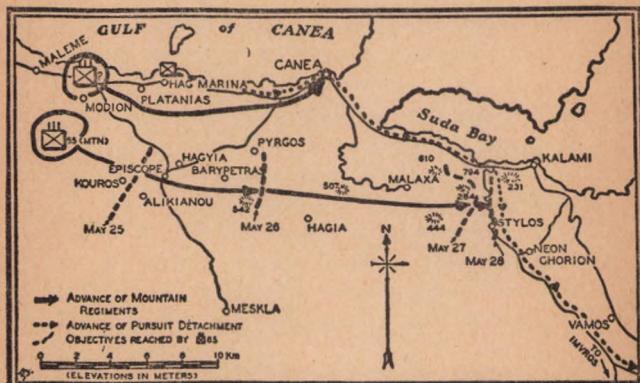
Details of the manner in which the German parachutists seized the field at Maleme are not available. One eyewitness British account lays it all at the feet of the bombers and the strafing fighter planes which "did what the parachutists failed to do" and "forced us off Maleme." This is a reasonable—almost an obvious—explanation. During those first hours the artillery of the air did the leading, and the parachutists did the following.

From the German standpoint everything now depended upon gaining full use of the Maleme field. However, the parachutists were barely holding their gains, and the dive-bombers were proving ineffective against the well-emplaced artillery. The inadequacy of the parachutist-bomber team to complete occupation of the airfield is tacitly acknowledged by the German decision to land infantry on the field, come what may

#### OPERATIONS AROUND SUDA BAY

Therefore, as of the afternoon of May 21st, the Germans began to land Ju-52's on the fire-swept field at Maleme. It must have been an expensive proposition

although, considering the results obtained, it was cheap at half the price. There are several eyewitness accounts to help us build up the picture. One German aviator describes how his first attempts to land were completely frustrated, how he returned his first load to the Grecian base, and how he was able to return and land with great difficulty later. A British officer describes how the first twelve Ju-52's to attempt the landing were "smashed to pieces," but how "that did not stop them . . . they went on landing, one plane regularly every



Map 28: The attack of the mountain division

three minutes, losing one, then getting another down, then losing another."

By nightfall of this second day one battalion of mountain infantry had been landed on the field at Maleme. No details are available but it appears that this battalion had with it no armament heavier than its machine guns. The packs of the men were stripped to the minimum (the soldiers suffered severely during the cold nights for lack of blankets and overcoats) and there was no transportation.

This first mountain battalion—the 1st Battalion of the 85th Regiment—had the definite mission of eliminating the artillery fire on the Maleme field. It seems likely that attempts to land additional air-borne elements on the field were suspended pending the actions of the 1st Battalion. Few details concerning those actions are available. Authentic German accounts place the main British positions on the heights of Hag Marina, four miles east of the field and tell of an envelopment effected over difficult terrain to the south. In any event, it is certain that the advance of the 1st Battalion was supported by the usual—or perhaps in this instance, by the more than usual—number of dive-bombers. British and German accounts agree that the Maleme airfield was free of artillery fire and was completely in German hands by the morning of May 23d. Everyone agrees that this was the decisive development of the Cretan campaign.

We may be sure that the Ju-52's poured into Maleme during the 23d and the days following. Full details again are not available, but as of the evening of the 23d we find the 1st Battalion of the 85th Mountain Infantry swinging off to the southeast along the road Maleme-Episcope ". . . protecting the right flank of a mountain regiment attacking along the coastal road toward Canea." By this time contact had been established with the parachutists dropped on the first morning of the attack near Canea.

During the next two days (May 24th and 25th) the remaining elements of the 85th Mountain Infantry—the regimental headquarters, the 2d and 3d Battalions and the light howitzer company—were landed at Maleme. By evening of the 25th the regiment was assembled in the area southeast of Modion.

With the help of map 28, we may reconstitute the situation as of the evening of May 25th. Certain com-

bat elements of the Mountain Division, consisting chiefly of two regiments, had been landed and were in action. One of the regiments was attacking due east from the vicinity of Hag Marina against the main British positions at the head of Suda Bay. This was in the nature of a holding attack. The other regiment—the 85th—was assembled as already described ready to move due east from the vicinity of Episcope toward Stylos. This advance, which would take the regiment straight across the pathless mountain wastes, was directed against the flank and rear of the main British positions. The British on their part were holding to the west and south of Canea and in the sector of the 85th Regiment they were holding lightly the heights southwest of Alikianou and south of Episcope.

We are able to follow the advance of the 85th Regiment in some detail and since that is something we have not often been able to do in this campaign, let us do it here. The advance was an exercise in pure mountain warfare, conducted under conditions which called for the greatest physical exertion on the parts of the troops. The terrain was exceedingly rough and rocky, it was roadless and almost pathless. By day the sun was broiling hot and there was no shade and very little water. There was no transportation of any kind—weapons, ammunition, water, rations, all had to be carried by the soldiers. In the course of the fighting, units were often separated from their ration dumps and often went a day or more without food. No attempt at all was made to warm the food. By night it was cold and there were no overcoats. There was also little sleep since it was invariably necessary to post a large part of each company on security missions.

The technique of the advance of the 85th Regiment seems to have involved assigning definite terrain features as objectives to certain battalions. Often one bat-

talion would be held back until another battalion had reached its objective whereupon the first battalion would be pushed ahead, and so on. The regiment had no artillery of its own, the guns of the light howitzer company having been left behind with orders to be brought up later along the coastal road. Dive-bomber support is not mentioned in the German accounts but perhaps it had become too commonplace to receive special mention.

The advance across country began on the morning of May 26th. The 3d Battalion led out and forthwith discovered that the British had abandoned the positions southwest of Alikianou and south of Episcope. As the 3d Battalion reached the heights south of Barypetras, the regimental commander ordered the 1st Battalion to smash ahead. It encountered some resistance but by nightfall had reached the line Pyrgos—Hill 542. Early on the morning of May 27th the advance was resumed, this time with two battalions abreast: the 1st Battalion on the left and the 2d Battalion on the right. The objective for the day was the road running southeast through Stylos down which the British would necessarily withdraw. On this day the assault battalions covered about eight miles (they had covered five miles the day before), but they fell short of their objective by a mile or so. On the 28th the regiment reached the road at many points and one company of the 1st Battalion is reported to have pushed ahead on its own initiative and seized a bridge on the main road one mile south of Kalami. From a point of vantage the regimental commander watched columns of British soldiers moving south toward Neon Chorion. His reaction was to regret his lack of artillery for use against the "highly observable targets."

While the 85th Regiment was advancing from Pyrgos to Stylos, it was bypassing the fight which all the time

was raging to the west and south of Canea. As the 85th Regiment approached the main coastal roads in the vicinity of Stylos and Kalamis, the British positions near Canea became untenable. The positions were abandoned on the afternoon of the 27th. As we shall see, many of the defenders managed to slip away to the southeast that night using the roads which the 85th Regiment had fallen just short of reaching.

Having reached and cut the vital roads on the 28th the 85th Regiment, following a division order, sent its reserve battalion (the 3d) down the road to a point south of Neon Chorion. There the battalion was to take up a position covering the assembly of a "pursuit detachment" then being formed back at Maleme.

#### OPERATIONS OF THE PURSUIT DETACHMENT

This pursuit detachment deserves a few paragraphs. The first noteworthy point is the one just made: the detachment was being formed at Maleme while the attack on the Canea position was still in progress. Therefore, the detachment was ready to move out the moment the roads were clear. Obviously the detachment was composed of all-fresh units which had not yet seen action. In fact the clear indication is that most of the units had just been landed and there is the good possibility that they were components not of the Mountain Division but of an air-infantry division.

The chief elements of the pursuit detachment were:

- one motorcycle battalion,
- one mountain reconnaissance battalion,
- several mountain artillery batteries,
- one platoon of tanks, and
- one section of engineers.

No further details concerning any of these units are available. It is probable that all except the tank platoon were air-borne. The tanks may have been small ones

brought in by air, or they may have been boated over to Suda Bay by night.

In any event, the detachment moved out of its assembly area near Platanias at 3:30 A.M. on May 28th. There had been a little delay in departure due to failure of the tanks and motorcycles to arrive, and in fact these elements were missing when the movement started. Just east of Suda the column was delayed for three or four hours due to demolitions on the road and during this enforced wait tanks and motorcycles caught up. The detachment continued the march in a formation concerning which we have only one detail: the leading unit was a bicycle company (apparently from the reconnaissance battalion). Just west of the road junction north of Stylos the bicyclists were brought up short by fire from the cliffs which lined the road. The rest of the reconnaissance battalion (the "heavy" company) came up and took over the frontal advance, and the bicycle company turned south for the inevitable envelopment. After bringing mortars, antitank guns, and artillery into action, the enemy was finally dislodged, a crater in the road at the junction was by-passed, and the advance continued. The time was about noon. It will be noted that the pursuit detachment had reached the Stylos road practically simultaneously with the 85th Mountain Regiment. It is likely that the enemy dislodged by the detachment were cut off, or barely escaped being cut off, by the mountain troops.

Following the action north of Stylos, the pursuit detachment took up an advance guard formation. The advance guard consisted of one motorcycle company, the section of engineers, one platoon of artillery, one platoon of antitank guns, and the "heavy" company of the reconnaissance battalion. Meanwhile, the bicycle company with one platoon of antitank guns attached was sent down the alternate route, Kalami-Vamos.

As the advance guard passed through Stylos, it made contact with the 85th Regiment and no doubt was brought up to date on the current situation. The object of the detachment now was to push ahead as rapidly as possible in the hope of disrupting the British withdrawal. At a point about a mile south of Neon Chorion—apparently just beyond the position held by the 3d Battalion—the point of the advance guard was taken under heavy rifle fire. This evidently was from the rear guard of the withdrawing enemy column. It was still early in the afternoon.

An attempt by the advance party to steam-roller its way through the pass was repulsed, apparently with considerable losses ("The party got itself into a difficult situation" says the German account). During the afternoon the remainder of the advance guard and finally the main body came up and joined the action. Finally the 3d Battalion of the 85th was called in to serve as the enveloping force. Obviously, the British were fighting a determined action. The German commander got the impression that ". . . the enemy was employing all means at hand in order to hold out until dark with the intention of withdrawing during the night . . . (the British) made occasional small counterattacks, so that much of the action was at close quarters." He found his own artillery was ineffective owing to poor observation, and so he decided to await the withdrawal.

The British did withdraw shortly after midnight— withdrew to the south, and away from further contact with this pursuit detachment. The detachment resumed the advance early on the morning of the 29th. There were occasional delays due to road-blocks, mines, and weak or demolished bridges, but there was no enemy resistance worthy of the name. At 1:00 P.M. the advance guard reached Rethymnon, and a few minutes later made contact with the "Rethymnon west" group of

parachutists. This group of parachutists were defending themselves near where they had fallen about two miles east of Rethymnon. The town had remained in Australian-Greek hands. Here as elsewhere along the coastal road the defenders appear to have abandoned their positions after the fall of Canea and to have moved to the south coast in the hopes of being evacuated.

Up to this point—the road junction east of Rethymnon—there continued to be little or no enemy resistance (although a few hundred Greeks had given themselves up as prisoners). However, the road further east of Rethymnon is cut out of the sides of the hills which rise from the sea. The parachutists reported that the hills were strongly held and that the road was covered by enemy fire. Under the circumstances, the detachment commander decided to bivouac for the night where he was—near Rethymnon.

At 5:00 A.M. on May 30th, the detachment again moved out. This time the advance was led by two tanks, closely followed by two infantry howitzers (on self-propelled mounts?). Apparently the tanks and infantry howitzers went on down the road a distance of about three miles while the mass of the detachment awaited the results of an artillery bombardment of the sides of the hills. When the artillery fire at the near end of the pass was supplemented by fire from the tanks and infantry howitzers at the far end, the defending Greeks and Australians (1,100 of them the Germans say) came down and surrendered.

The action east of Rethymnon was over by 7:30 A.M. At 8:30 A.M. the advance guard of the detachment made contact with the "Rethymnon east" group of parachutists. This group, like the "Rethymnon west" one, had been unable to better its position and so had simply held on through the ten tough days.

At 1:30 P.M. the detachment was resting on the air.

field at Candia, having made contact a half an hour before with the group of parachutists which had been held west of the town. Leaving Candia at 4:00 P.M. the detachment marched to Neapolis. There one platoon of motorcyclists was detached and sent on ahead to the day's march objective, Herapetra. As the platoon passed through Spakia, it made contact with a motorized *Italian* reconnaissance party. With the battle already won the Italians had landed (by boat) the day before. Their current mission was to hold the insignificant village of Spakia. The German motorcycle platoon reached Herapetra at 10:00 P.M. An hour later the remainder of the motorcycle battalion came up. The distance covered during the day figured up at about 120 miles.

Throughout the operations of the pursuit detachment, there is no mention of support by dive-bombers. The conclusion seems to follow that although the Germans provide dive-bombers liberally when needed, they do not provide them at all when not needed.

#### PURSUIT TO THE SOUTH COAST

By now there will have arisen the question of what happened to the defenders who succeeded in getting away. Light on this matter is thrown by the further activities of the 85th Regiment of mountain infantry. It will be recalled that we left that regiment along the Stylos road on the afternoon of May 28th. The regiment's 3d Battalion had just assisted the pursuit detachment in an attack on a British delaying position near Neon Chorion. By the afternoon of May 29th the 85th Regiment (less the 2d Battalion) had occupied a pass two miles south of Alikampos, where we again pick up its story. The British troops who had evacuated the Suda Bay region were heading south toward Sphakia on the southern coast (not to be confused with Spakia

where we left the Italians). The mission of the 85th Mountain Regiment was to turn that retreat into a rout.

About 9:30 A.M. on May 30th the 1st Battalion, leading the advance, came into contact with scouts of the British rearguard near Imvros. There was an exchange of rifle fire, following which the weak British screen withdrew to what developed to be another main delaying position in the vicinity of Hill 798—End of Road (map 29). (It will be recalled that the road ends at Komedates, and that from there on there is nothing but a foot path.) The British had thrown up field fortifications. Their position was so strong as to induce automatically the adoption by the 85th Regiment of the *Umfassung* (envelopment) tactics which characterize German operations, even minor ones. There was no frontal attack but, as indicated on the map, the 1st and 2d Companies of the leading battalion moved out across country for a double envelopment of the enemy flanks. Apparently the 3d Company was in battalion reserve.

This envelopment operation of the 1st Battalion progressed during the night (May 29th-30th) but when morning came it was found that the British had extended their flanks. The German reaction to this new development was again to decline a frontal attack and again to resort to a double envelopment. This time the 7th and 8th Companies of the 3d Battalion were sent wide around the flanks, as indicated on the sketch. This was a double envelopment of a double envelopment.

Meanwhile during the course of May 31st, a regimental OP had been established on the commanding heights of Hill 892. From this point of vantage a long stretch of coast could be observed. The British were seen to be crowding into the area between Kometades and Sphakia. They were continuing to hold the line of Hill 798 and were erecting field fortifications facing

east between Kometades and Wraskos. The attack on Hill 798 (by the enveloping forces) had been set for dawn of June 1st, but after observing the strength of the British position the regimental commander decided to hold up the attack until he could get dive bomber and artillery support.

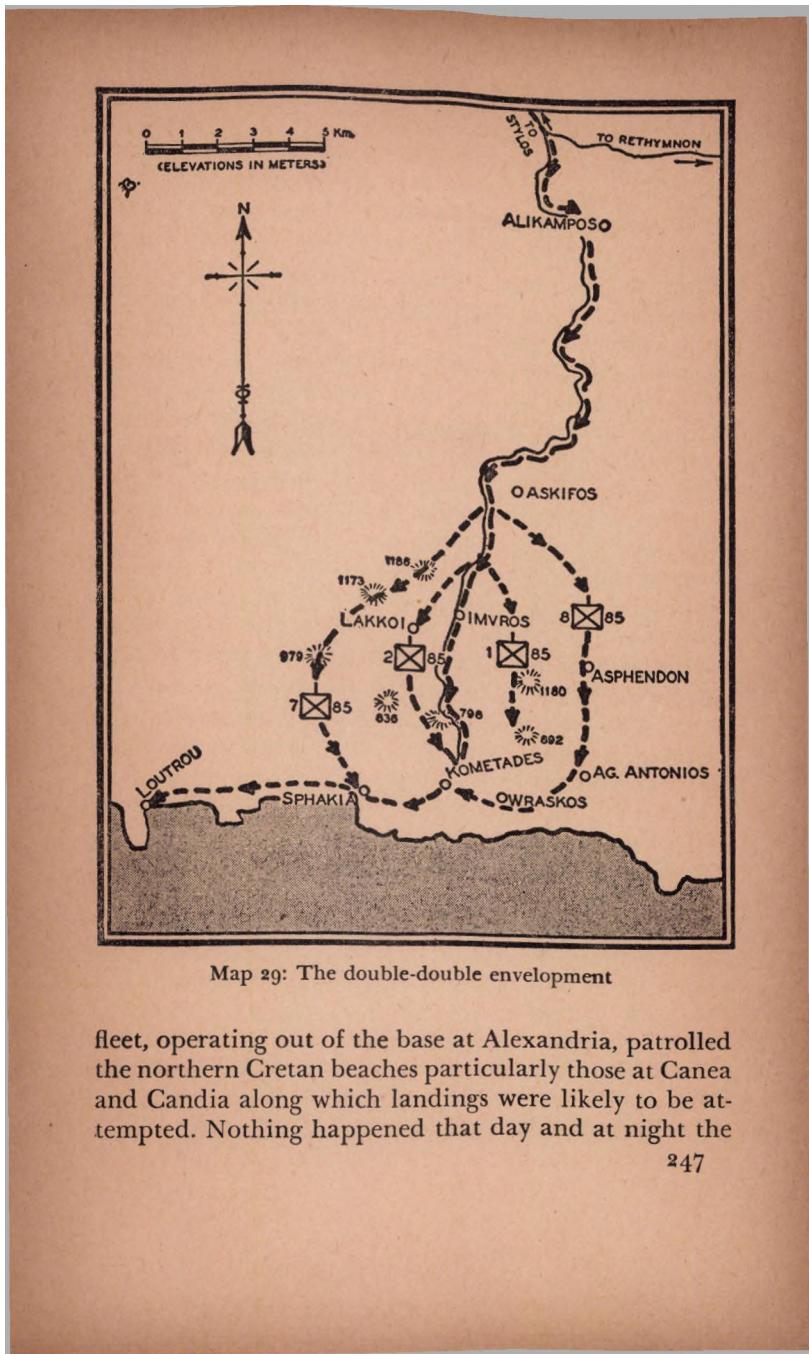
The dive bombers (four of them) appeared early on the morning of June 1st. Meanwhile a light infantry howitzer had been installed on Hill 892 (being pulled up by manpower), and beginning at 8:30 A.M., it added its fire to that of the bombers. The observation being excellent, the fire of the infantry howitzer was highly effective—by inference, more effective than the bombs of the Stukas. The combined fire of howitzers and bombers is alleged to have ". . . forced the enemy to leave his positions and to seek safety by dispersion in in the fields."

At 9:00 A.M., under cover of the bombardment the 7th and 8th Companies launched their converging attack on Kometades and Sphakia. By 10:00 A.M. the 8th Company was in Kometades and by 1:30 P.M. the 7th Company had broken through to Sphakia. By 8:00 P.M. the 85th Regiment was in possession of the coast from Wraskos to Loutrou and the final action on Crete soil was finished.

#### NAVAL OPERATIONS

The operations around Crete constituted one of the most heroic but altogether one of the saddest experiences in the history of the Royal Navy. When the parachutists began to drop on May 20th, the Navy waded into the thick of the action. At the time it was generally believed that the parachute and air attack was preliminary to a large-scale water-borne invasion, and the Royal Navy undertook to prevent it.

All during the 20th strong units of the Mediterranean  
246



Map 29: The double-double envelopment

fleet, operating out of the base at Alexandria, patrolled the northern Cretan beaches particularly those at Canea and Candia along which landings were likely to be attempted. Nothing happened that day and at night the

units of the fleet withdrew from the Aegean waters. During the night there was a brush with Italian E-boats, as a result of which several of those fast motor-driven craft were sunk. A short time later as the fleet was passing through the straits between Crete and the Dodecanese Islands it was attacked from the air and one destroyer, the *Juno*, was sunk. Even with that loss by night time of May 20th it looked as though things were going well enough at sea.

The day of May 21st appears to have passed quietly with the main British fleet units keeping out of the Aegean. During that night (May 21st-22d), however, there came reports that the water-borne invasion was under way. The fleet which had been standing in readiness, moved immediately to the danger points. During the very early hours of May 22d the ships encountered the convoy—a convoy of about thirty small Greek ships, escorted apparently by a single destroyer. The action was short and decisive, the convoy and its destroyer being quickly and completely annihilated. The Germans later put their losses at 200 men—a figure probably as far under the true mark as British estimates of 5,000 lost were over the mark. There is good evidence to show that the convoy was made up of mountain troops. This suggests the thought that the unit involved may have been the missing third regiment of that mountain division which figured so prominently in the land operations.

Apparently the British fleet had disposed of the convoy before the Luftwaffe could get into action but a little later in the morning the bombers arrived. There followed a plane-versus-ship fight which likely will go down in history as a military epic.

Details of the historic battle are lacking. Apparently as it began only "light" units of the fleet were in the Aegean while the "heavy" units were patrolling the

nearby Ionian Sea. The light squadron, or a part of it consisting of four cruisers and three destroyers, was attacked by dive bombers at 8:30 A.M. between Candia and the island of Melos. Apparently the technique of the dive bombers was to concentrate on any ship which happened to get separated from the others and, conversely, the technique of the squadron was to keep all ships within mutual supporting distances. The ships themselves kept moving at high speeds ". . . repeatedly changing course, dodging the falling bombs while speeding at over thirty knots."

Meanwhile as the battle in the Aegean raged the heavy squadron was speeding through the straits northwest of Crete to the rescue of the lighter units. During the afternoon all units, heavy and light, were violently engaged. Heavy losses were suffered and inflicted. At 1:30 P.M. the destroyer *Greyhound* fell back, was heavily attacked, and was sunk. Two destroyers and two cruisers went back, the destroyers to pick up survivors, and the cruisers to provide antiair protection. Both cruisers (the *Gloucester* and the *Fiji*) were sunk.

The terrible day in the Aegean finally ended and the British ships withdrew to their base. The two cruisers and perhaps four destroyers had been lost, and practically every ship had been subjected to a terrific pounding from the air.

The elements of the Battle of the Aegean were clear: it had been a case of land-based aircraft against ships with no protection other than their own antiair guns.

It appears that the British fleet never again entered the Aegean in strength after the battle of the 22d. At the same time, it appears that the Germans never resorted to large-scale water-borne troop transport during the operations on the island. Possible answers to this seeming inconsistency are the following: having effected the air-borne landing of the battalion of mountain in-

fantry of May 22d, the Germans had no burning need of water-borne transport and, with the British fleet still strong and still in position to move into the Aegean quickly, the Germans feared to risk the loss of another convoy.

The Royal Navy did indeed continue to perform invaluable services during the remainder of the Cretan campaign. Perhaps the most important of these services was in aiding the evacuation of troops from the southern coasts. It appears that light units of the fleet—such as destroyers—would lay well off the southern coast of the island. By night these vessels would come in close and would send boats ashore to pick up any troops who happened to have reached the points in question. Thus while the British were fighting that delaying action north of Sphakia, it is probable that each night saw the evacuation of hundreds of troops by the destroyers lying offshore.

The clearest evidence of the work of the Royal Navy during those later days of the operations on Crete lies in the official British figures of number of troops evacuated: approximately 15,000. About half of that number were English. The remainder was divided between Australians and New Zealanders. Incidentally, it will be noted that the British succeeded in evacuating about one-half of the force which garrisoned Crete at the start of the invasion. Of course, most of the force's equipment was lost.

The figures for British losses, according to British sources, have been indicated above: approximately 15,000 killed, wounded or missing. On the other side of the picture, German figures for German losses, officially announced, give a total of about 6,000 killed, wounded, or missing. The British say this German figure is about one-third of the true one and they add that the Germans lost on the order of 250 troop-carrying planes

and 180 fighters and bombers. One thing is clear: on a percentage basis, the losses on both sides were extremely high. In view of the nature of the operations, that fact comes as no surprise.

#### THE LESSONS

The campaign in Crete gives us a remarkable and clear-cut example of unity of command. Absolute coöordination of land and air forces was a prerequisite to German success. That coöordination was attained by placing all the forces concerned—the VIII Air Corps, the mountain division, the parachute units, the airborne units—under the direct command of General Löhr. The action in so constituting the “Task Force Crete” was typical of German doctrine. Under that doctrine the question as to the merits or demerits of a “separate” or a “non-separate” air force becomes merely a play on words. When it comes to the fighting no one element is separate—everything is blended, by deliberate directive, into a coöordinated whole.

The command of the Task Force Crete was not only unified; it was also especially fitted for the task at hand. General Löhr is a general of aviation. The selection of such an officer to command an operation in which air power played so important a rôle is another item typical of German doctrine.

Also typical was the composition of the task force itself. It might have been expected that the first airborne troops to land would be the air-infantry units which had operated the year before in Holland. However, Crete is a mass of mountains and so it was logical (and typical) for the mountain troops to be landed first. We have seen that these mountain troops had in fact broken the back of the defense before other units arrived.

The campaign in Crete was another powerful illustra-

tion of the Dunkirk-proven fact that an air force is only effective when it has bases within range of the action. Much of the explanation of the events in Crete lies in the following picture: hundreds of German fighters and bombers operating out of bases between ninety (Melos) and two hundred (Athens) miles away; against an insignificant number of British bombers operating out of African bases beyond effective fighter range (400 miles).

The sad situation cited just above has one cheerful angle: it reassures us as to the chances of success of an invasion of England. Just as the invasion of Crete turned on acquiring complete control of the air, so does a successful invasion of England presuppose complete control of the air. But the Island of England is dotted with airdromes and the invader will meet not bombers that have flown four hundred miles, but fighters that left the ground five minutes ago. Owing to the unfavorably-located African bases, Germany seized the air over Crete practically by default. The price of seizing the air over England would be an all-out encounter with the RAF pursuit fleet. Judging by past events, the price will be beyond the invader's means.

The events of May 22d in the Aegean Sea will long be cited as prime evidence in discussions of air and sea power. These events seem to have established definitely a fact which already had been widely accepted, namely, that naval vessels can operate in narrow waters covered by hostile land-based aircraft only at the cost of heavy losses.

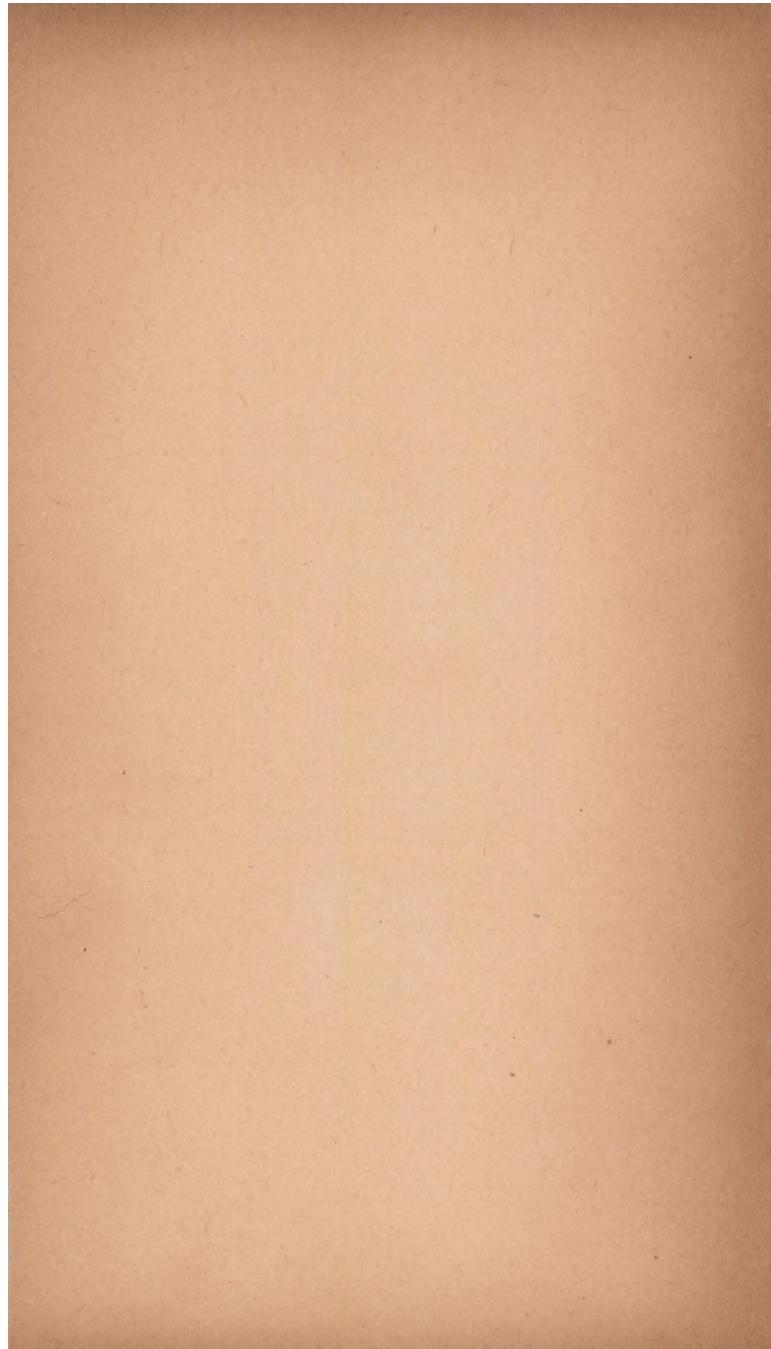
As it happened, the tragic losses of the British Mediterranean fleet were largely in vain since the Germans were able to make the invasion stick without benefit of sea-borne convoys. However, the fact remains that the fleet was able to destroy the convoy, and the strong indication is that it could have destroyed subsequent convoys had any appeared and had the fleet been willing

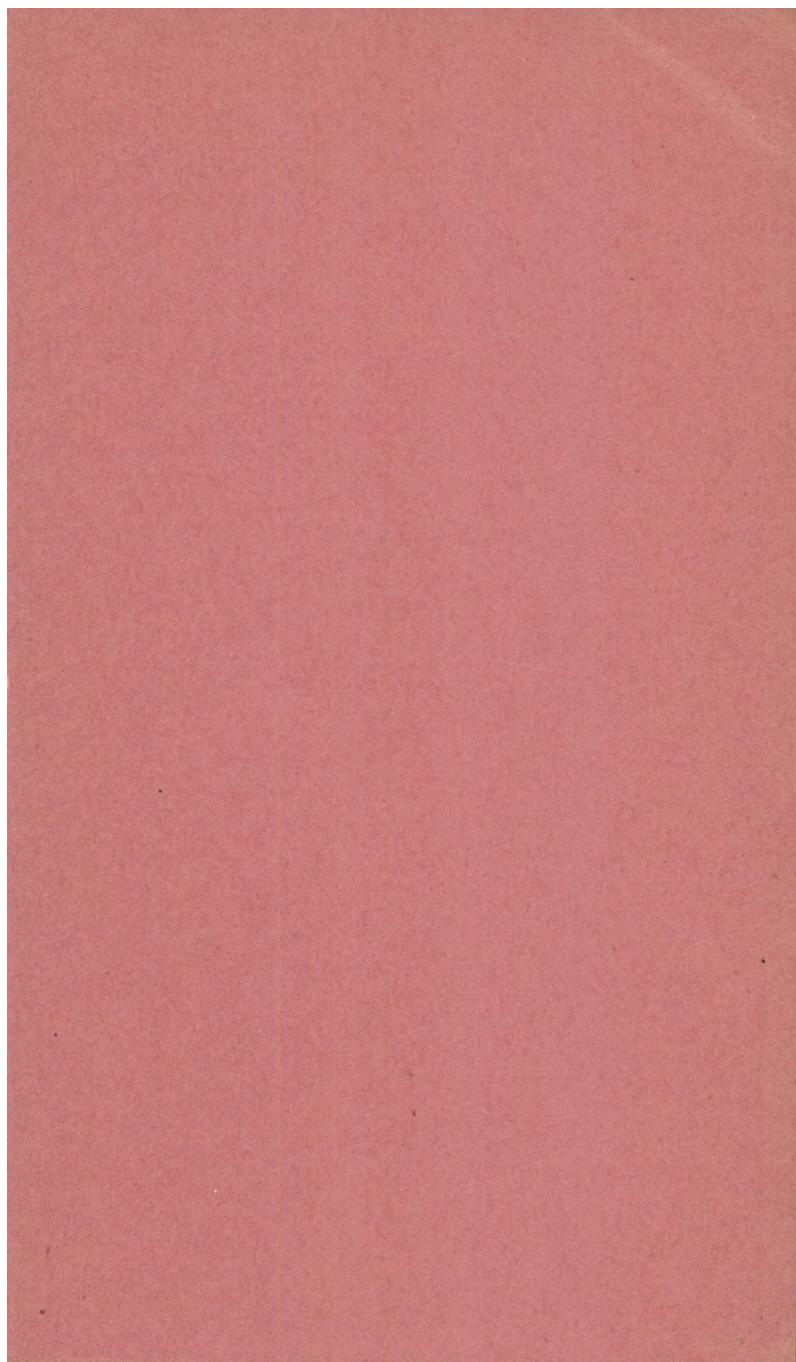
to take the losses. Thus the fact that land-based aircraft can inflict heavy losses on naval vessels in narrow waters does one mean that shipping friendly to the aircraft may sail such waters with impunity. And under some conditions that fact may be very important indeed.

The tactical developments of the campaign were a demonstration of the possibilities of the bomber used as artillery in conjunction with ground troops armed with automatic weapons (tommy guns). While ". . . the destructive power (of the bomber) is less than its paralyzing power, it does paralyze . . . and, it is able to ferret out anything." It is only belaboring the obvious to note once again that the parachutists were sustained by the bombers, and that the mountain troops were literally blasted into victory by them.

The direct strategical consequences of the fall of Crete are not yet discernible. There was a prevalent expectation that the successful invasion would be followed rapidly by an attack on the long-established British naval base at Cyprus. But such an attack has not materialized, and if it did it would find Cyprus a harder nut to crack. However, there seems no doubt but that the occupation of Crete has materially restricted the British use of the eastern Mediterranean and has given Germany an advanced bastion of great value both from the offensive and defensive standpoints. Among other possibilities there is the one that Crete-based bombers may play an important rôle in any forthcoming action around Suez or in North Africa.

*Finis.*





## PENGUIN MILITARY BOOKS



### S209 AMERICANS VS. GERMANS

Real battle experiences of American soldiers of the last war. Written by those who actually had the experiences. No chocolate coating.

### S204 HOW THE JAP ARMY FIGHTS

Four U. S. Army Officers tell about the equipment, personnel, tactics and strategy of the Japanese Army. Includes a play-by-play account of the Malayan campaign.

### S203 GUERRILLA WARFARE

*"Yank" Levy*

A prescription for soldiers, home guardsmen, state guards, and all individuals and groups that want to know how to use guerrilla methods.

### S202 NEW SOLDIER'S HANDBOOK

The official U. S. Army Soldier's Handbook is included in this book of valuable material for soldiers, soldiers-to-be, and civilians who wish to be well informed on the subject of the American soldier.

### S201 WHAT'S THAT PLANE?

*Walter Pitkin, Jr.*

A new edition of the fast-selling book on American, Japanese, and long-range German aircraft. Silhouettes and descriptions of 83 different planes, plus photographs.

### S75 NEW WAYS OF WAR

*Tom Wintringham*

The second edition of the world-famous book which describes the importance of home and state guards, and the skills which home-guardsman must master.

### S60 WARSHIPS AT WORK

*A. C. Hardy*

Describes the exact function and the tactical importance of each type of naval vessel. Profusely illustrated.

PRICE FOR ALL PENGUIN BOOKS

25¢



1dollarscan.com (zLibro, Inc.)  
2470 Winchester Blvd STE A  
Campbell CA 95008

I agree with the following conditions:

- 1) I am using 1dollarscan.com services based on my own request.
- 2) I agree to Terms and Conditions at 1dollarscan.com, <http://1dollarscan.com/terms.php> and my use of 1dollarscan's services will be within the scope of the Fair Use Policy (<http://www.copyright.gov/fls/fl102.html>). Otherwise, meet at least one of the following:
  - a) I am the copyright holder of this content.
  - b) I have the permission from copyright owner.
- 3) I understand that 1dollarscan shall have no liability to me or any third party with respect to their services.
- 4) All scanned books provided herein are used internal use within Fair Use Policy.

NAME: Stan Kaplan

Signature:

67510-3

Date: 5/4/24

This sheet should be inserted at the last page of each file generated by 1dollarscan.com scanning services.